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## FURTHER EXPERIMENTS IN THE USE OF PENICILLIN IN THE PREVENTION OF *C. PYOGENES* INFECTION OF THE NON-LACTATING BOVINE UDDER

BY

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Results of trials carried out in Northern Ireland in 1947, 1948 and 1949, have already shown the value of penicillin in oily suspension in preventing the *C. pyogenes* variety of the so-called " summer mastitis " of the non-lactating bovine udder. (Pearson, 1948 and 1950).

During the three summer seasons over 3,000 dry cattle were involved in the experiments. They proved that a watery solution of sodium penicillin did not protect the udder from *C. pyogenes* invasion, but that a single injection of an oily suspension of the calcium or procaine salts gave 50 to 70 per cent. protection to animals during the susceptible period.

It was observed that the degree of protection given to the animals depended largely on the proximity of the injections to the summer mastitis epidemic. Cases in treated cattle did not occur until at least 20 days after the udders were inoculated and consequently if the epidemic was late the percentage protection given was relatively low.

It was considered that a practical method of control of the disease could be evolved by giving the oily injections to susceptible dry cattle every two or three weeks during the summer mastitis season. In 1950 a controlled field experiment based on this principle of multiple injections was put into effect and the second part of this paper is devoted to the results obtained.

Preliminary experiments were carried out before the 1950 field trial in an effort to ascertain what form of penicillin, what quantity of the drug, and what volume of oily base would allow maximum persistence of penicillin in the dry udder. The results of these tests are first described and it was on the strength of these that no radical change was made in the choice of an inoculum for the experiment using repeated injections.

### PART I: PERSISTENCE TESTS

*Animals.*—Three cows (E14, E11 and H) which had borne at least two calves each and one cow (M) which had calved only once, were used for this work. Between them 14 clinically normal dry quarters were considered suitable for the tests; E14 and E11 had one " blind " quarter each. Cow M was six months pregnant when the tests started and Cow H was served seven weeks after they commenced. E14 and E11 were barren throughout the experiment.

*Udder Secretions.*—The nature and quantity of the quarter secretions were noted before and after each test series. The quarters were primarily sterilised by penicillin treatment 14 days before the first critical injections were given and tests for maintenance of this sterility were made after each product was tested.

*Inocula Tested.*—Eight combinations of penicillin salts and volumes of oil or water were used:—

(*a*) 100,000 units procaine penicillin in 1 ml. arachis oil with 2 per cent. aluminium monostearate.

(*b*) 100,000 units calcium penicillin in 1 ml. of arachis oil containing 4.5 per cent. white beeswax.

(*c*) 250,000 units procaine penicillin in 1 ml. of same base as (*a*).

(*d*) 250,000 units calcium penicillin in 1 ml. of same base as (*b*).

(*e*) 100,000 units procaine penicillin in 3 ml. of same base as (*a*).

(*f*) 100,000 units calcium penicillin in 3 ml. of same base as (*b*).

(*g*) 250,000 units procaine penicillin in 7·5 ml. of same base as (*a*).

(*w*) 100,000 units calcium penicillin in 3 ml. distilled water.

A similar series of persistence tests using 250,000 units dihydrostreptomycin sulphate in 3·5 ml. arachis oil with aluminium monostearate was also carried out on the quarters.

*Procedure.*—The inocula were made available in collapsible tubes specially designed for teat inoculation. The teat was cleansed with spirit and any excessive quantity of fluid present in the gland removed before the tube contents were expressed into the teat. No massage was applied to the teat or udder after the inoculation.

*Persistence Tests.*—These inevitably had to be simple, as little material could be taken from the non-secreting quarter for daily testing. Two to three drops of fluid were taken from the teat each day, tests primarily starting at the end of seven days. Where no penicillin was detected at that time the same injection was repeated in the quarter and tests carried out daily after 72 hours. In all instances tests were continued until two successive negative readings were obtained. The second negative reading was estimated on the total teat and ampulla contents available.

The assay tests were carried out in duplicate in sealed 10 mm. cups on trypsin agar plates. The test organism, a beta-haemolytic *Staphylococcus pyogenes*, was spread on the total surface of each plate prior to inoculation of each cup with 0·1 ml. of the test secretion. The plates were inverted and incubated for 24 hours at 37° C., the average diameter of the inhibitory zones being then recorded in millimetres as the degree of inhibition exhibited by the test sample.

Control plates, using as the cup inocula the original untreated udder secretions, were also put up. Each penicillin combination similarly was tested during each series in order to estimate its maximum inhibitory effect in the *in vitro* conditions allowed.

RESULTS:

The results are expressed graphically in Tables A, B, C, D, E, F, G and W.

Tables of figures are not given as, on the whole, the graphs can be followed quite clearly. The number of each animal (Cow E14, Cow E11, Cow H or Cow M) is printed on the dorsal surface of each line along the line of the quarter secretion tested (LF—left front; RH—right hind, etc.).

Table G is not complete for all 14 quarters as Cow M calved before the tests on that animal could be made and immediate shortage of material at the time prevented three other quarters from being tested.

In the control plates it was observed that no greater inhibitory zone was obtained with the larger unitage of penicillin or with the proportionately larger quantity of penicillin to base. The zones varied between 60 and 80 mm. diameter and on account of this the average for all preparations was taken for graphical representation at 70 mm.

The streptomycin assay tests were carried out in a similar way, using the same staphylococcus. The maximum inhibitory zone in control plates, however, was found to average only 55 mm. diameter, 15 mm. less than that given by the penicillin materials. It was considered that this was due, not to the use of a relatively resistant staphylococcus, but to the method of assay employed.

## RESULTS AND DISCUSSION

Despite the limitations of the methods of assay, the results obtained are relatively uniform. The simple tests were essential as less than 1 ml. udder fluid was available for each daily test. Nevertheless, it was significant that in the removal of even this essential quantity of secretion no marked drop in subsequent inhibition readings was necessarily initiated.

The penicillin inoculum probably dispersed from the teat canal to the cistern and glandular tissue more readily in some instances than in others, but a check for the presence of the drug in these less dependant sites was always made in the final test. In no case was any found in the absence of penicillin in the teat.

*Watery Penicillin.*—As was expected, penicillin in watery solution gave very poor results, only a trace of detectable penicillin being found in one out of 14 quarters after four days.

*Calcium and Procaine Salts.*—A comparison between the procaine in oil readings and those of the calcium salt indicates that there is no advantage in using the former preparation if persistence of penicillin in dry udder is wanted. Murnane (1949), Hughes, Christie and Farmer (1950), Hignett (1950) and others, have found a slightly longer persistence of procaine penicillin in the milking gland. In the present experiments the calcium salt in the dry udder has given the best individual results, traces of penicillin being detected in the left hind quarter of Cow E14 at the end of 14 days.

It is possible, however, that a small advantage in persistence gained in the use of one or other penicillin product in the dry or milking udder may not be of such great significance in the elimination of infections.

This suggestion is supported by work carried out by Hughes *et al.* (1950), who found no significant advantage in using procaine penicillin in the treatment of *Str. agalactiae* infections in one group of animals over the use of the calcium salt in another group containing an equal number of *Str. agalactiae* infections.

*Individual Quarters.*—It is obvious from the results that some quarters—even in individual animals—have greater powers of retaining the drug than others. In Groups A, B, C and D it is significant that the secretions of E14—LH, E11—LH and E11—RH, retained detectable quantities of penicillin for longer periods than any other of the eleven quarter secretions tested.

In all these groups the volume of inoculum was 1 ml. In the 3 ml. Groups E and F this factor was not so constant, though in the 7·5 ml. graph it will be seen that these three quarter secretions again held top positions among the seven quarters tested.

*Unitage of Penicillin.*—No advantage was found in using 250,000 units of either the procaine or calcium salts in 1 ml. oil base in place of the 100,000 unit dose in the same volume.

In three of the quarters given 100,000 units procaine in 1 ml. oil, detectable quantities were found at ten days. In two of these quarters only traces of the analogous 250,000 unit dose were found at the end of eleven days. In the comparable 1 ml. calcium groups there appeared to be slightly more in favour of the 100,000 unit dose. Certainly this was so with the outstanding left hind quarter samples from Cow E14.

*Volume of Base.*—The use of a 3 ml. base appears to be of less advantage in allowing persistence than the 1 ml. volume. This is quite clear if the Procaine Graphs A and E are compared and similarly the Calcium Graphs B and F.

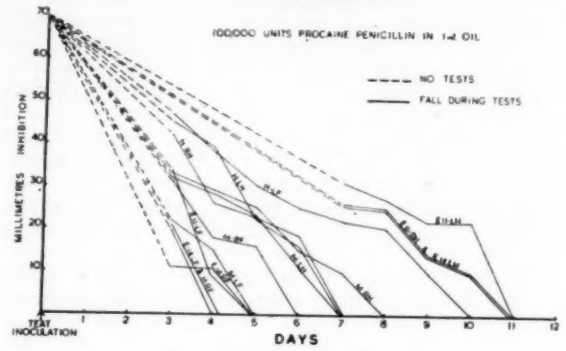
Detectable quantities of penicillin were found in four quarters from the eighth day onwards in the 1 ml. Procaine Group, while in the 3 ml. group only a trace could be found in one quarter at the eighth day. The corresponding readings following administration of 100,000 units calcium salt in 1 ml. and 3 ml. oil also indicated that a distinct advantage was gained by using the smaller quantity of base.

The results of the 7·5 ml. tests using 250,000 units of procaine penicillin are not conclusive as only seven quarters were involved in the series. They do suggest, however, that the large dose combined with the large volume of base gives no better results than those given by 100,000 units in 1 ml. In this respect the practical application of these preparations is worthy of consideration. The smaller tubes are preferable owing to the speed with which multiple inoculations can be carried out. Tubes containing 3 ml. or more of the base used take much longer to express and can be very tiring to the fingers if given in large numbers during a day.

*Character of Secretion.*—The nature and quantity of the secretions in all 14 quarters remained fairly uniform throughout the experiment. They varied in general from 2 to 30 ml. of clear to cloudy watery fluid. Occasionally larger quantities of this secretion could be obtained—up to 4 oz.—but no significant diluting effect on the teat samples was noticed. Inhibitory readings took a fairly regular course and compared favourably with similar tests repeated at a later date. Small clots were noticed in the secretion from E14—RF quarter on the third day following the injection of 100,000 units calcium penicillin in 1 ml. oil, but the inhibitory reading was apparently not unduly influenced. The third and fourth day readings were 33 mm. and 23 mm. respectively.

In Cow H the udder secretion began to change to a honey-like consistency about five weeks from calving. The LH quarter changed first and in comparison with the other quarters showed slightly less ability to retain detectable quantities of penicillin. When the other three secretions changed, in no instance was penicillin found after the fourth

## TABLE A

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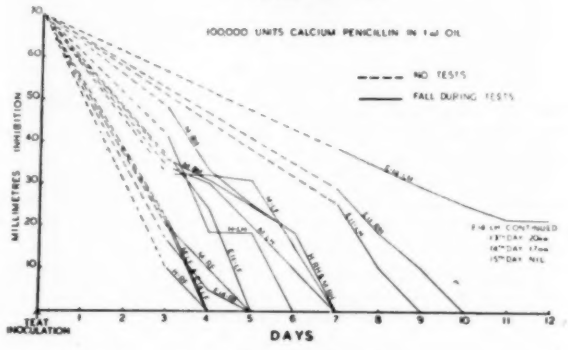


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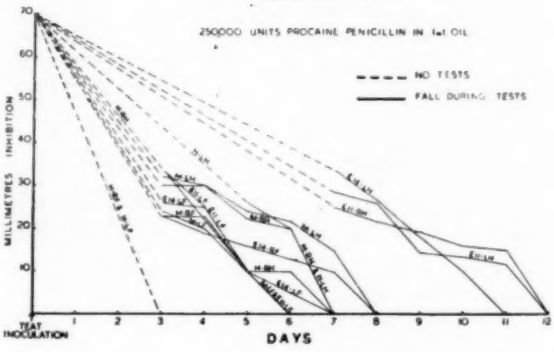


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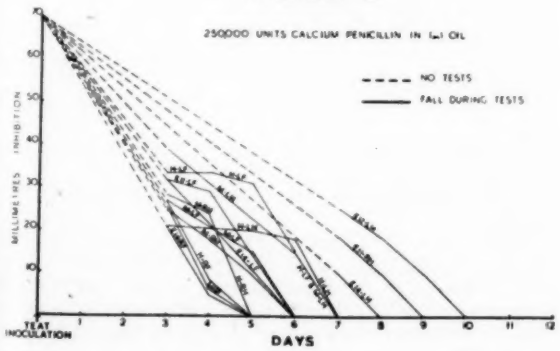


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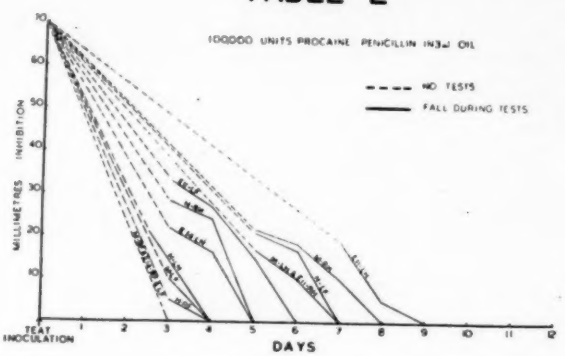


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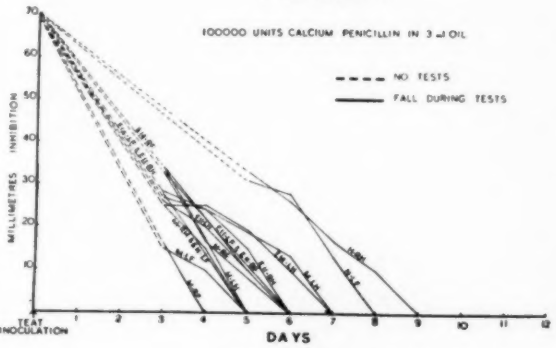


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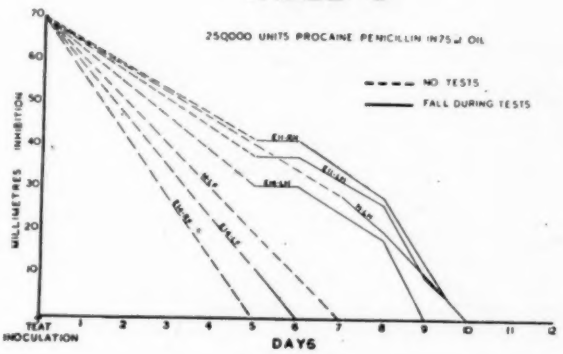


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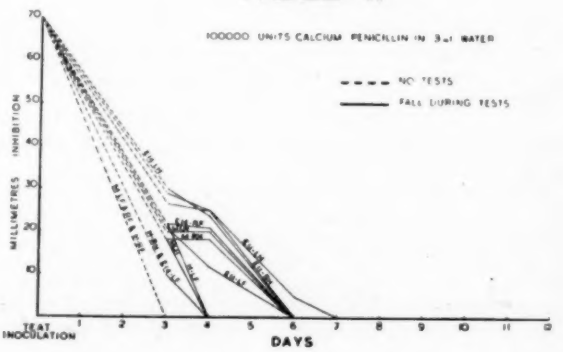

day. Only six tests of this nature were recorded, however, and of these five were in the 3 ml. groups.

*Streptomycin.*—In this series eleven quarters only were tested and in comparison with the results using penicillin the readings obtained were poor. In ten of the quarters detectable quantities of streptomycin were found at the end of the four days, but in only one of these was any found after a further 24 hours.

The injections, however, were made in only one volume of base, 3·5 ml., and it is reasonable to suggest from the penicillin results that if streptomycin were given in a smaller volume of oil the results might be slightly better.

## PART II. FIELD PREVENTION TRIAL USING MULTIPLE INJECTIONS

The animals chosen and the procedure used for the multiple injections were essentially similar to those adopted for the previous three years' field experiments (Pearson, 1950).

On this occasion, however, no first calving heifers were included and all animals had borne at least one calf. The system of keeping controls was also modified in order to avoid treatment of the control quarters by the owner. Many stock owners, during the previous three years, had come to regard the inoculations as a reliable method of prevention and the experimental purpose of our visits was either ignored or given secondary consideration.

All animals included in this experiment, therefore, were given two forms of teat inoculation and in themselves formed both control and treated groups. The two quarters of one side of each udder were inoculated with tubes containing penicillin while the two quarters on the other side were given bland oil injections. On approximately half the farms the active tubes were inoculated into left hand quarters and on the other farms into the right. In several places the inoculations were reversed on fresh animals presented for treatment at second or third visits. This tended to avoid undue criticism if " dirty quarters " or summer mastitis cases tended to be numerous in the herd. Further casualties then appeared to be more uniformly distributed.

*Penicillin Inoculum.*—This consisted of 100,000 units calcium penicillin suspended in 1 ml. arachis oil containing 4·5 per cent. white beeswax.

*Bland Inoculum.*—This was composed of 1 ml. sterile arachis oil beeswax base only.

*System of Injections.*—Inoculations were started during the last week in June and all herds revisited for second and third injections at 14 to 18 day intervals until the third week in August. Five hundred and thirty-one cows in 43 herds were included in the experiment.

A maximum of three udder injections was given to each animal, though all did not receive the total number. This was because some cows calved during the course of the experiment and others had just been dried off when the second and third visits were made. This was considered of no consequence, however, as all the penicillin treated quarters were theoretically given protection from udder infection for approximately 21 days after each visit.

Cases occurring in treated or control quarters 21 or more days after the final injections were given are not included in the percentage incidence.

*Udder Samples.*—Secretions were taken from typical acute cases of summer mastitis as soon as they were notified by the owner. The quarter affected was noted and the course of the clinical condition followed for as long as possible. In one instance, owing to a misunderstanding, a sample was not obtained from an affected control quarter, but the course of the disease was typical and the quarter found to be atrophied and blind when seen five weeks later.

All samples were subjected to aerobic and anaerobic culture. In addition, Gram-stained films of the secretions were examined for bacteriological and cytological pictures.

Treatment of samples with penicillinase was necessary on three or four occasions when it was found that local penicillin treatment had been given to typical cases by the owner. If no organisms were isolated using this technique a further sample was taken from the affected udder and a note of the clinical progress of the condition recorded. In the few instances of this kind *C. pyogenes* ultimately was isolated from one or more samples and all quarters were functionally lost.

Mild inflammatory changes were observed in a number of quarters during sporadic visits or when second and third injections were being given. The quarters were generally swollen, but little or no pain was evident. Fibrinous clots, creamy pus or an excessive quantity of watery fluid was usually withdrawn. Complete microscopical and cultural examinations were also made on these secretions when they were obtainable.

### Results

A total of 531 animals was involved in the experiment. One hundred and eighty-four were injected on only one occasion, 172 twice and 175 three times.

In the control group of 1,062 quarters 29 typical summer mastitis cases yielding *C. pyogenes* alone or along with other organisms were recorded. Two of these were in one cow. Four other quarters showing acute mastitis yielded no organisms in one instance, a non-haemolytic streptococcus in another, an untyped diphtheroid in the third and a Gram-negative cocco-bacillus in the fourth.

In the treated group of quarters, also totalling 1,062, only two acute mastitis cases occurred during the experimental period. Both were very severe *C. pyogenes* infections, and although recorded, were considered atypical from the point of view of the experiment. The animals affected were both on one farm and were yielding a small quantity of milk when injected. The farmer unfortunately considered it an additional precaution to strip the glands daily following the teat inoculations and found himself with two mastitis cases nine days after one injection had been given.

If these two cases are disregarded the protection given to the treated group of quarters was therefore virtually 100 per cent.

To illustrate the results in terms of cows the figures may be given as follows:—

Number of cows treated—265·5.
Number of control cows—265·5.
Cases in treated cows: 2—0.75 per cent.
Cases in control cows: 28—10·6 per cent.
Actual percentage protection—92 per cent.
Virtual percentage protection—100 per cent.

The distribution of the *C. pyogenes* control cases during the experiment was as follows:—

Seventeen occurred from one to 17 days following the first injection.

Nine occurred from one to 16 days following the second injection.

Two occurred at three and eleven days following the third injection.

Owing to the early start of the summer mastitis epidemic in this particular year, cases already had occurred on some of the farms before inoculations were commenced. A total of 22 were recorded, though not all were seen or sampled. Two *C. pyogenes* cases occurred also in control quarters

after 21 days following the third injections. *C. pyogenes* was isolated from all but one of the samples obtained from these cases.

Mild inflammatory changes were observed in 25 of the quarters during the course of the trial. Eighteen of these occurred in control quarters and seven in penicillin treated quarters. In several of these local penicillin treatment already had been given by the farmer and bacteriological examination of secretions was unsatisfactory. The majority of these cases, however, were noticed by the writer when second and third injections were being given and untreated samples were obtainable from 16 quarters. *Str. dysgalactiae* and a non-haemolytic streptococcus were isolated from two of the penicillin treated group of quarters, while from the control quarter samples *C. pyogenes* was isolated once, *Str. dysgalactiae* twice, *Str. agalactiae* once and *Staph. aureus* once. In the other nine samples in both groups no bacteria were either seen microscopically or isolated in culture.

It is interesting to record at this point that all these mild inflammatory changes were eliminated by the administration of a single injection of 100,000 units calcium penicillin in 1 ml. oil following stripping of the quarter contents.

Also it is of significance that six *C. pyogenes* quarters among the acute cases recorded were restored to a clinically normal state following conscientious massage and stripping of the quarter and local treatment with calcium penicillin. In these six cases, however, the disease was noticed within 12 hours of starting and most of the credit probably should be given to the fact that treatment was commenced as soon as clinical evidence of the disease was shown.

## Discussion

Although the main purpose of the field trial has been to evolve a practical method of preventing summer mastitis, every effort has been made to observe why the method used has been successful and what, if any, light can be thrown on the aetiology or pathogenesis of the disease.

The results of the experiment require little elaboration. The figures show clearly that the system of multiple injections adopted has given almost full protection against summer mastitis in dry cows. Work of a similar nature has been carried out recently in England (Report, 1950) and the results are somewhat similar. In a field experiment involving 707 dry cows, 6·3 per cent. of the control animals took summer mastitis, whereas only 1·6 per cent. of those in the treated group became affected.

Observations on the mild inflammatory changes seen in dry quarters at this time of year also indicate that the method used is of value in controlling these changes in the dry udder. They suggest that these subacute forms of mastitis occur more frequently in dry cows than is generally known. It is possible also that these milder changes may precede the typical summer mastitis syndrome. Pearson (1949) already has obtained evidence along this line and suggested that even sub-clinical changes may occur for several days before the typical acute stages are manifest.

It is of interest here to refer to observations by Neave, Dodds and Henriques (1950) on infections occurring in the bovine udder during the dry period. These workers found a great increase in the number of new infections occurring during the 21 days following complete cessation of milking. Emphasis is placed mainly on the persistence of these infections until parturition and on the proportion of these infections found to lead to a clinical mastitis during the proceeding lactation. New infections were found in over 50 per cent. of the 94 dry periods studied, yet no record is given of a single mild or severe inflammatory reaction occurring in any animal while the gland was in the non-lactating phase.

As the prophylactic value of the teat injections appears to be dependent on an antibacterial agent, a clue as to the actual cause of the disease is given by this experiment and by those carried out in the three previous years (Pearson, 1950). They suggest that the initiation of the disease is largely dependent on the influence of agents susceptible to penicillin. It is clear also that this agent need not necessarily be the diphtheroid *C. pyogenes*. The complete absence of bacteria from so many summer mastitis secretions—12 per cent. according to Pearson (1949)—has suggested that an agent, such as virus or virus-like body, may exist in some cases. Experiments with sterile secretions (Pearson, 1950) have indicated, however, that this agent, if it exists, is not readily transmitted artificially. Until something more concrete can be established about any such predisposing causes therefore, it is useless to theorise further as to the exact nature of the summer mastitis phenomenon.

It can readily be understood that the udders are given protection against bacterial invasion *as long as penicillin exists in the teat or ampulla of the gland*. From the first group of experiments, however, it was shown that only in rare instances was a detectable quantity of penicillin found after the tenth day, yet in the field the udders appear to be given protection for at least a further ten or 12 days.

The sterilising effect of the injections on the bacterial flora of the non-lactating udder appears, therefore, to be of considerable importance. The elimination of mastitis streptococci, non-haemolytic streptococci, non-haemolytic diphtheroids and micrococci has been found by the author to be almost complete when tests are made at 14 to 18 days following one injection. Staphylococcal infections are more resistant.

To the general practitioner the idea of giving multiple injections should not be frightening. The task is not a laborious one. Some cows' teats are certainly more difficult to inoculate than others, but it is not essential to insert the nozzle of the tube actually into the teat. If the teat is cleansed with spirit it is generally quite easy to see the point of the lumen, hold the nozzle against it and squeeze the 1 ml. volume of oil into the teat canal. Larger volumes of base naturally take up more time but, as has been observed, are quite unnecessary.

In practice injections should be started in the last week in June and continued at 14 to 18 day intervals until the third week in August. If the summer mastitis epidemic appears to be continuing into September, a further injection may be given about the beginning of that month. Thus a total of four visits at a maximum should cover the epidemic period.

Problem animals are first calving heifers and cows not quite dry when a series of animals is being injected. The former are difficult to handle, but could be done if time and patience permit. The others may also be injected at shorter intervals, say, three to five days, until considered essentially dry enough to be left for 14 days without being stripped.

An important feature of the penicillin inoculum is that it is completely bland and non-irritant. The stimulation of fluid secretion in the dry udder is undesirable—and many antibiotics and chemical bacteriocidal agents have been found to do this in varying degrees. A preparation of Nisin was found to produce a considerable inflammatory reaction within 24 hours. Two forms of propamidine were also found to be irritant. Bismuth iodoform paraffin paste

(B.I.P.P.) produced variable results but, on the whole, was not considered to be of great value.


## Summary

### Part I

Fourteen non-lactating quarters of cows have been used to estimate how long varying quantities of calcium and procaine penicillin will persist following a single teat inoculation. Doses of 100,000 and 250,000 units penicillin have been given in 1 ml., 3 ml. and 7·5 ml. oily base.

Penicillin has been found to persist in detectable quantities for periods ranging from five to 14 days, some quarters being found to have the power to retain the drug for a longer period than others.

The experiments have shown that no advantage in persistence is gained by using the larger dose of penicillin or a base greater than 1 ml. Procaine penicillin has been found to persist no longer than calcium penicillin.

Following the injection of 100,000 units calcium penicillin in 3 ml. water, traces of penicillin were found in only one of the 14 quarters after four days. Eleven of the quarters were injected with 250,000 units dihydrostreptomycin sulphate and the results were similarly disappointing. In only one was streptomycin found after five days.

### Part II

A further field experiment in the prevention of *C. pyogenes* summer mastitis is described. The teats of 531 dry cattle have been injected with 100,000 units calcium penicillin in 1 ml. arachis oil beeswax base on one, two or three occasions at intervals of 14 to 18 days. Control quarters were kept by injecting two quarters of each cow with a 1 ml. bland oil injection.

With the exception of two atypical *C. pyogenes* cases in the treated group of quarters, the system of multiple injections has given virtually 100 per cent. protection against *C. pyogenes* invasion of the udder. In terms of cows affected, 28 cases occurred in the control group and only the two atypical cases in the treated group.

Observations have been made on other infections occurring in treated and control quarters, particularly with reference to mild inflammatory changes occurring in many of the quarters during the course of the experiment.


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# THE ANTIHISTAMINICS AND THEIR USE IN VETERINARY MEDICINE*

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## Introduction

Antihistaminics or histamine antagonists refer to an interesting series of chemicals which have been found to have the property of protecting experimental animals against severe fatal doses of histamine. Since their introduction to clinical medicine they have been used naturally and primarily, and with considerable success, in conditions which we have always assumed to be associated with histamine release, such as allergic conditions involving the skin, conjunctiva, and upper respiratory tract. The antihistaminics have been tried in many other conditions and the response has varied considerably. It follows, therefore, that there is inevitably a certain amount of empirical treatment carried out which, however, may bring to light much knowledge concerning the underlying chemical and physical pathology of many obscure syndromes. Examples will be given later in this paper when the clinical aspects are discussed.

## History

Histamine was first prepared in 1907 and it was discovered in ergot by Barger and Dale (1910). Ackerman (1910) found that it was produced by bacteria. Lewis (1927) described the response brought about by the intradermal injection of histamine and drew attention to the resemblance of this to urticaria and the effects of various forms of injury to the skin. Several other workers have brought forward evidence that histamine is concerned in the production of itching and cutaneous pain.

The discovery of the potent antihistaminics is due largely to Bovet and Staub at the Pasteur Institute in Paris. One of the first of these substances to attract attention was ethyl diethylaniline or 1571F and in 1942 Wilcox and Seegal, using this compound, prevented anaphylactic shock in sensitised guinea-pigs. This was a great advance, but it proved too toxic for clinical use in man. However, further study of the structural modifications of this compound led ultimately to the introduction of anthisan, or neoantergan as it is known in the U.S.A. and France, which is mepyramine maleate. Many other antihistaminics subsequently have been synthetised and pyribenzamine, antistin, benadryl, and phenergan, may be mentioned. Phenergan is promethazine hydrochloride and is derived from phenothiazine.

## Action

Histamine is found in most tissues of the body and using a physiological method of assay, Harris (1927) and Thorpe (1928) found that the lungs contain 35 to 75 mg. of available histamine per kg., the liver 2·5 to 6·6 mg. histamine per kg., the skin 6 mg. Other tissues contain much less. Histamine is rapidly destroyed in normal blood. It is generally conceded that histamine is released as the result of cell injury and as the result of an antigen or allergen-antibody reaction. Dale has suggested that when cells which liberate histamine themselves react the reaction should be called " intrinsic," but when histamine acts on distant cells

* Presented to the Eastern Counties Veterinary Association meeting at Colchester, May 17th, 1950.

its action should be called " extrinsic." In man the antihistaminic drugs are usually much less effective against intrinsic than against extrinsic actions of endogenous histamine. They are—assuming the rôle of histamine in these conditions—less effective, for example, in bronchial asthma where histamine is liberated by the reacting structure than in chronic urticaria where it is not. The availability of the drug to the tissues concerned may possibly explain this phenomenon. These general observations may be applied equally to somewhat similar conditions in animals and may explain failures in treatment.

It is generally assumed that histamine antagonists act by receptor competition, that they become fixed in varying degrees and with varying firmness to receptors on the tissues on which histamine acts, and by this preferential fixation or competition partially exclude or block the access of histamine to those receptors (Gaddum, 1948).

Before discussing the uses of the antihistaminics it might be as well to mention briefly the action of histamine in the domestic animals in so far as it is known. In dogs, for instance, it causes spasm of the hepatic veins, a fall in blood pressure, increased capillary permeability, diarrhoea, dyspnoea, salivation and increased peristalsis. In horses and cattle histamine effects are characterised chiefly by diarrhoea, whilst several investigators have reported that it produces symptoms similar to laminitis and pulmonary emphysema (Rawson, 1949). As far as I know, little or no work has been done on the pharmacology of histamine or for that matter any other substance in the large animals, so all we can do is to assume that the general trend of reactions due to histamine is similar to those observed in the laboratory animals and possibly man.

*Local analgesic action.*—Halpern, Perrin and Dews (1947) found that phenergan had three times the anaesthetic activity of cocaine. Anthisan was much less active than phenergan and it was concluded that antihistamine activity was completely independent of local analgesic activity. Reuse (1948) reached similar conclusions and suggested that the local action of these drugs was related to their action against acetylcholine.

## Comparison of Antihistaminic Agents

Bain (1949) has described an attempt to make a quantitative comparison of the action of several histaminic antagonists in man by a method of measuring wheals or flares produced by an intradermal injection of histamine and comparing the size and duration of the skin reaction to various doses of histamine antagonists given by the mouth. He found in man that phenergan was seven times more potent than anthisan and 15 times more potent than antistin, given weight for weight. The duration of action of phenergan was about four times longer than anthisan and over five times longer than antistin. Relative therapeutic efficacies in chronic urticaria showed that phenergan was about 14 times as active as anthisan. I am merely giving you these results in man as a matter of interest and I do not suggest that they can be applied to animals. We do not know.

## Side Effects and Toxicity

As far as anthisan and phenergan are concerned, they are generally well tolerated in man and in animals. In man, somnolence and mild gastric upsets have been reported, whilst other side effects include dizziness, mild headache, visual disturbances, and fleeting joint pains or ataxia. These nervous symptoms are usually transient and disappear after several days in spite of continual treatment. In cases where they persist and are troublesome they can often be combated by the simultaneous administration of amphetamine sulphate.

In animals the side effects are comparable to those in man and the nervous symptoms are much more often seen when the drug is given intravenously, especially in horses and cattle. For this reason intravenous administration is not now recommended. In horses there is often a very typical transient reaction following intravenous injection. The animal usually pricks his ears and appears to be trying to focus on something. This is often followed by the animal backing away from something he seems to think is there; there may be slight inco-ordination. Intramuscular injection very rarely gives rise to any side effect at all. Comparative toxicity tests in calves showed that phenergan gave rise to much less reaction than anthisan when given intramuscularly at four times the dose recommended. By intravenous inoculation any reactions were accentuated, but no deaths occurred even when four times the therapeutic dose was used, although a severe reaction followed this large dose. Given intramuscularly no reaction at all followed twice the recommended dose.

Before discussing the various uses to which the antihistaminics have been applied in veterinary practice, the following points are worthy of emphasis: antihistaminics do not immunise the patient or protect him from the effects of allergic reactions for any extensive period following each dose, which should be repeated in the case of anthisan every eight to 12 hours. There is every indication that the effect of phenergan lasts longer and may be repeated at 24-hour intervals. In animals, however, more observations and clinical work on phenergan are necessary. Secondly, the antihistaminics are not a panacea for all ills, but are worthy of trial in many cases where the aetiology and underlying pathology is obscure and especially if the symptoms possibly can be related to some allergic reaction. In animals allergy is very often associated with food and environmental change, and we know from experience that many of the syndromes which give rise to the alarming symptoms seen in bloat, laminitis, azoturia, etc., are usually traceable to a change of diet and environment which may affect the metabolism of the animal. Highly nitrogenous foods are often implicated in these cases.

## Uses in Veterinary Medicine

I can only give you a summary of the uses of anthisan and phenergan in animals. As far as I know, the other antihistaminics have not been used in veterinary practice to any extent. The information which I am about to give you comes from veterinary practitioners throughout the country, supplemented by my own personal experience, and I will look forward to hearing of your clinical experiences during the course of the discussion.

*Dogs.*—As mentioned previously, the main effects of histamine injected intravenously are a fall in blood pressure, broncho-spasm and intestinal spasm, and spasm of the hepatic vessels. Subsequent administration of anthisan will control these symptoms. Anthisan given before the histamine prevents these actions but not the fall in blood pressure. Antihistaminics given in high doses intravenously may produce symptoms of excitement lasting from 30 minutes up to two hours. Given by the mouth gastric upsets may follow. The recommended method of administration is by intramuscular injection.

A high proportion of successful results has followed the local use of anthisan and the systemic use of phenergan or anthisan in cases of acute and chronic moist eczema. Other conditions such as urticaria, and various types of dermatitis have responded to the use of antihistaminics. In

acute eczematous otitis very good results have been obtained by the use of anthisan and phenergan locally and systemically.

Other reports mention oedema of the glottis in the bulldog, acute conjunctivitis in the cat, allergy to floor polish, etc. Anthisan cream has been used in surface burns with great reduction in pain and shock.

*Cats.*—There is little information regarding cats. A case of burning was treated with anthisan cream. Until more information is available the antinistaminics should be used with caution in these animals.

*Horses.*—As mentioned previously, intravenous injection may cause undesirable reactions, and intramuscular injection is recommended. If the intravenous route is preferred for any particular reason, then injection should be given very slowly and the horse brought into a field and kept there for ten minutes after the treatment. Occasionally the intramuscular injection is not well tolerated locally, but with proper aseptic precautions this is rare.

What is often called the nutritional type of laminitis reacts well to treatment with the antihistaminics. In laminitis of pregnancy good results have also been obtained. French, British and American workers have obtained a high proportion of good results in paroxysmal myohaemoglobinuria or azoturia. Various skin conditions such as urticaria and summer itch in horses have responded extremely well.

Bee stings and insect bites in all animals and in man may give rise to an allergic reaction and response from antihistaminic treatment can be expected. The condition known as " blue nose " has been treated successfully, whilst purpura following equine influenza has been reported on very favourably. French and American workers report good results in cases of pulmonary oedema and in periodic ophthalmia. The antihistaminics have been tried in grass sickness with negative results.

In Kenya a condition similar to sporadic lymphangitis, or " Monday morning " leg, which is not uncommon in light horses in Africa, has responded well to antihistaminic treatment.

*Cattle.*—Intravenous injection should be given very slowly. Even then, a nervous reaction may follow and the animal should not be chained up. Intramuscular injection is probably the best route. The usual allergic conditions respond well: swellings of the head and vulva following feeding on pea vine was a recent case in point.

In so-called " staggers " good results have followed treatment with the antihistaminics in conjunction with calcium therapy, and in a few cases of milk fever. Laminitis in cows has also been treated successfully.

Certain cases of bloat or hoven have responded well to anthisan, especially those associated with a sudden change to a high protein diet such as clover. Spectacular results have been reported from very reliable sources in cases of acute septic metritis in conjunction with orthodox treatment.

Various other conditions, such as diarrhoea of unknown origin, fits in calves following the use of " starter " foods, and fog fever have all been reported on favourably, together with the use of anthisan cream locally in cases of vaginitis.

*Sheep.*—Anthisan has been reported as a success in an outbreak of rhododendron poisoning and in pregnancy toxaemia.

*Pigs.*—In the condition known as gut oedema phenergan given within 12 hours gave very good results and reduced mortality in 12-week-old pigs from 100 per cent. to 50 per cent.

A considerable number of cures have been reported in this condition in pigs when phenergan has been given in conjunction with 100,000 units of penicillin.

### General Comments

It is obvious that the antihistaminics are interesting compounds and that they have a useful place in veterinary therapeutics. I would again emphasise that their action is purely symptomatic and that they are not a panacea for all ills and more information is required in many conditions.

From the point of view of comparison, anthisan is useful because of its relatively pure antihistamine action. It has no action against acetylcholine. Therefore, any favourable response can be assumed to be due to the histamine antagonistic properties.

Phenergan, on the other hand, is the more powerful drug and in our experience much less toxic than anthisan in animals. It is quite likely that phenergan will prove to be the ideal product for veterinary therapeutics. Phenergan also antagonises acetylcholine as well as histamine and in addition has marked analgesic and spasmolytic properties.

Further use of the antihistaminics in human medicine will probably suggest further fields of trial in veterinary practice. Very promising results have been obtained in acute nephritis and in motion sickness, both of which bring to mind corresponding conditions in animals.

Finally, I would say that in preparing this short review of these substances I have drawn freely from the literature, from reports sent in by veterinary surgeons and from the paper on antihistaminics by Mr. E. J. Baines, B.Sc., in the *M. & B. Veterinary Review*, all of which I wish to acknowledge.

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## ANIMAL HEALTH TRUST

At the annual meeting of the Somerset County Committee of the Animal Health Trust, Colonel R. R. Tawney, the County Organiser, stated that during the past year Somerset contributed a record amount to the Trust. He calculated that in 1950 Somerset raised a sum of about £2,500 for the working and administration of the Trust and was confident that they could substantially increase their contribution to headquarters in future years to their target of £5,000 a year. As an indication of the progress made, Colonel Tawney stated that in 1950 £150 was collected at various shows, against £100 in the previous year. They had been represented at many more shows than ever before, almost invariably without charge.

Earl Waldegrave was re-elected President and Captain J. Fox Vice-President.

## CLINICAL COMMUNICATIONS

### RUPTURE OF THE OESOPHAGUS IN LAMBS

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The purpose of recording the following case is to draw attention to an affection of sheep which, though relatively common on farms in recent years, may prove somewhat baffling to a practitioner encountering it for the first time. Cases of oesophageal rupture in sheep have not previously been encountered in the abattoirs in this city, though rupture of the oesophagus is occasionally met with in cattle and caused by injudicious use of the probang. It is hoped that the following record may also prove of value to veterinary surgeons who are engaged in meat inspection.

The dressed carcases of six wether lambs arrived at the slaughterhouse from a farm about ten miles from the city. The carcases were accompanied in each case by the pluck, and examination of the latter showed that in every case there was evidence of damage to, or rupture of, the oesophagus together with gangrenous changes in the area adjacent to the seat of injury. The putrefactive process had in some cases extended downwards as far as the mediastinal fat, and in two of the cases there was marked congestion of the lungs. On splitting each of the six carcases gangrenous changes were also evident in the fatty tissues just below the bodies of the last few cervical and first few dorsal vertebrae, and in one of the carcases there was evidence of cloudy swelling of the kidneys, indicative of toxic change. Further examination of the carcases showed that in three cases the prescapular lymph nodes were normal in appearance, but in the other three carcases the nodes were oedematous and markedly enlarged.

It was obvious from the similarity of the lesions that there was a common factor which had necessitated slaughter, and injury of a mechanical nature was suspected. Enquiry from the owner elicited the fact that about four days previously he had dosed the lambs with phenothiazine capsules, using a home-made balling gun which consisted of a length of hosepipe into which was inserted a piece of wood to act as a plunger. A day or so after dosing he noticed that the lambs had gone off their food, and as one animal died he decided to slaughter the sickly animals and consign the carcases to the nearest abattoir. The dead lamb was sent by him to the Veterinary Investigation Department, Elswick Hall, Newcastle-upon-Tyne, where it was reported that the animal showed a rent in the oesophagus some ¾ inch long and that the surrounding tissues of the neck were thickened, gangrenous and foul smelling. Mr. Lyle Stewart, of the above department, informs me that in his investigational work he finds damage to the oesophagus an all-too-frequent cause of unexplained illnesses or death in sheep. The affection is seen most commonly in young lambs and the oesophageal rupture usually occurs just posterior to the pharynx.

Further enquiries from practitioners in the district confirmed the fact that this affection is relatively common and that in some cases it assumes a gangrenous form, death following fairly rapidly due to toxaemia; in other cases it assumes a chronic form with local abscess formation from which *C. pyogenes* has been isolated. It appears that most cases of laceration of the oesophagus occur: (*a*) in lambs or hoggs receiving their first dose of capsules, (*b*) on farms where the shepherd has not previously used a balling gun and has therefore not acquired the necessary dexterity, and (*c*) where a home-made balling gun, similar to that already described, is used. The affection occurs quite commonly, however, even with the ordinary balling gun, particularly when the protective rubber works loose, thus permitting the plunger to project too far and cause damage to the pharynx or oesophagus. Sheep injured during medication by this method generally show a slight cough, stop eating and look "hangy," and death usually occurs on about the third to fifth day.

In this particular part of the country the practitioner is usually called in when a dozen or so sheep are affected and one of two have died; peculiarly enough, it is uncommon to find more than this number affected out of a flock. Any form of treatment is obviously hopeless and early slaughter is indicated, the criterion of judgment being the extent of the toxic changes in the carcase. In the six carcases consigned to the Newcastle slaughterhouse one carcase (that showing cloudy swelling of the kidneys) was totally condemned due to toxic infection; in two carcases a short forequarter was removed from each side and condemned, while the remaining three carcases were passed unconditionally as fit for food. It is perhaps understandable that the practitioner called to such cases of illness in sheep is frequently greeted with the allegation that the drug itself is the cause of the illness, and the farmer asks for a report on what, in his view, is "a definite case of phenothiazine poisoning."

* * * * *

### AN EXTRA-UTERINE FOETUS IN THE CAT

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Ectopic pregnancy is a rare condition that has been seen, however, in all the domesticated animals. For example, in recent years cases have been reported for the horse (Goodfellow, 1942), cow (Deimler, 1942; Fromm, 1930), sheep (Descurtins, 1934), goat (Ayyar, 1944), pig (Benesch, 1934; Brauns, 1942) and the cat (Stephenson, Swett & Williams, 1931).

The following case was encountered in a cat:—

*Subject.*—Female tortoiseshell cat, 2·4 kg.

*History.*—The animal, of unknown age and parity, was received into the animal house from a dealer and used for a physiological experiment two days later. It was apparently in perfect health. Upon admission the abdominal and inguinal mammary glands on the right side (numbers three and four from the front) were tense with milk, which could easily be expressed from the teats. The rest of the glands were dry and involuted. It was assumed that the animal had just been weaned from kittens that had been suckling glands three and four on the right only.

Post-mortem *Examination.*—The animal was bled out under the existing anaesthesia as soon as the experiment was completed and a routine *post-mortem* examination was carried out at once.

A mummified foetus (Fig. 1) was found attached to the omentum by its ventral surface and lying transversely across the abdominal cavity in the mid-line at the level of the umbilicus. It measured 4·5 by 2·5 by 2 cm. and weighed 21 grammes, and was closely invested with a tough transparent membrane through which it could been seen that hair (black and red) was present and that the ears were about the size seen in full-term kittens. It was tightly curled up so that the limbs and tail were closely packed against the ventral surface. There was no sign of a placenta

and the omentum was tightly adherent to the remains of the limbs, lower jaw and lateral parts of the ventral body wall. A sagittal section showed that most of the soft tissue had been resorbed, leaving skin closely applied to the bony structures, with some powdery brown remains of muscle in between. No viscera were distinguishable, but the brain was little affected.

The uterus (Fig. 2), which was involuting, was apparently normal upon careful macroscopic examination, except for two holes in the left broad ligament on either side of the round ligaments. The anterior hole measured 2·5 by 1·7 cm. and the one behind the round ligament was approximately 1·5 by 1 cm. The left ovary contained two large corpora lutea, and the right, five, but implantation sites were no longer distinguishable on the uterus.

No other abnormalities were detected.

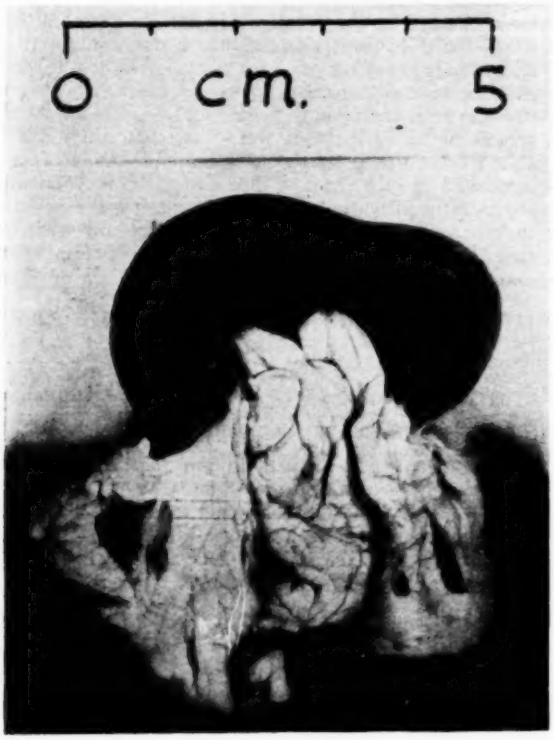


FIG. 1.

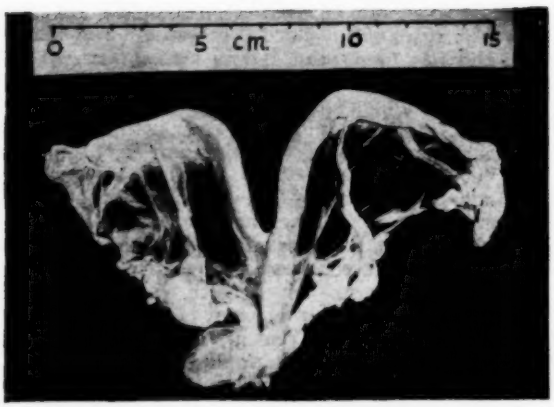


FIG. 2.

## DISCUSSION

Ectopic or extra-uterine pregnancy may occur in other parts of the reproductive tract or elsewhere in the abdominal cavity (abdominal pregnancy). Abdominal gestation may be primary, when the fertilised ovum develops entirely outside the reproductive tract, or secondary, when the developing ovum, embryo or foetus escapes from the ovary, oviduct or uterus.

Considerably more is known about ectopic pregnancy in the human than in other animals. In man, the vast majority of cases are encountered in the fallopian tubes, and less commonly in the ovaries (Barber, 1949), but abdominal gestation has also been widely reported (Billington & Goodchild, 1948; Nicholson, 1947; Tapia & Llanio, 1949). The concensus of opinion is that most cases of abdominal gestation are secondary (Williams, 1908; Novak, 1947; Kerr & Moir, 1949), and that the genuine primary cases are extremely rare, or not proven (Johnstone & Kellar, 1949).

In the domesticated mammals, Craig (1930) states (without references) that ovarian, tubal and vaginal pregnancy has been encountered and that secondary abdominal pregnancy is more common than primary, but Benesch (1934) and Williams (1943) think that no convincing evidence of the latter has been reported and Benesch also points out that, to establish it for a certainty, evidence of placentation outside the reproductive tract and the absence of a rupture or scar in the latter must be obtained. On these criteria, it is very probable that the majority of reported cases of extra-uterine foetuses in the veterinary literature were, in fact, examples of secondary abdominal pregnancy resulting from a ruptured uterus. The foetus may frequently become encapsulated within the abdominal walls and eventually escape through the skin, like any other foreign body (see Williams, 1943; Ayyar, 1944; Brauns, 1942; Descurtins, 1934; Uttangi, 1939).

It is impossible to say with any certainty from the scanty data available in this case exactly how the foetus came to lie outside the uterus and how long it had been there. However, it seems reasonable to attempt an explanation from the following circumstantial evidence.

(*a*) The foetus was approximately full term at its death. This may be assumed by comparison of the head and ear size (the head would be least affected by mummification because of the bony cranium) with that of full-term kittens, and in the presence of a full coat of hair.

(*b*) Since its death it had decreased in weight by about 75 per cent. (full-term viable kittens have been found to weigh 77 to 110 grammes. Mean ± S.D. 94·3 ± 9·0), having in this time lost much of its soft tissues.

(*c*) By comparison of the uterus with those of other cats, at known stages after parturition, it was estimated that parturition in this cat had taken place about ten days earlier. The unsuckled mammary glands in the cat have also been found to involute to the stage found in this cat in the same period.

(*d*) The foetus was enclosed in a single membrane, *i.e.*, probably of amnion. There was no trace of allantochorion or of any remains of the characteristic encircling placenta of the cat. There were no other adhesions anywhere else in the abdomen, such as might have been expected had placentation occurred outside the uterus, and which is a characteristic feature of abdominal placentation in the human (Billington & Goodchild, 1948; Tapia & Llanio, 1949).

(*e*) There were the two holes in the left broad ligament.

I think, therefore, that most probably this is another case of a ruptured uterus occurring at or about the time of parturition, with the extrusion of a single foetus complete in its amniotic sac into the abdominal cavity. The absence of detectable scarring of the uterus is not surprising in view of the remarkable speed and ease with which it heals, but presupposes that the umbilical cord must have ruptured and that the placenta and allantochorion remained in the uterus, probably to be delivered in the normal way.

The time the foetus had remained in the abdominal cavity is more difficult to determine. In the case described by Stephenson, Swett and Williams (1931), in which the remains of a foetus were found in a twisted loop of the uterus, almost separate from the main organ, in the cat, the history suggested that the condition arose from an accident during the penultimate pregnancy, two years before. It may be, therefore, that the foetus in this case became attached to the omentum during a previous pregnancy and there seems to be no reason why it should not have remained in the abdominal cavity indefinitely.


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## DANGER OF ANTHRAX INFECTION FROM BONE MEAL

*The Farmer & Stock-breeder* reports that Herefordshire F.U. have issued a warning to all members on the possible danger of anthrax infection arising from the use of bone meal. This action was taken on a report of the Cereals and Live Stock Committee, who had been addressed by Dr. A. J. Wilsdon, Divisional Veterinary Officer, and a trade representative.

"Dr. Wilsdon told the Committee that numerous cases of anthrax had been attributed to the use of raw bone meal, and many cases had occurred on hop farms where large quantities of the fertiliser were used. Imported bone meal had particularly caused trouble, but there appeared to be no solution to the problem other than vaccination.

"The Branch decided to warn farmers of the risks involved in the use of bone meal, of the care necessary in the handling and re-use of sacks and utensils which had contained the meal, and of the advisability of vaccinating cattle on land where bone meal had been used."

* * * * *

With regard to a by-law which has been submitted to the Minister of Agriculture for confirmation requiring stallions turned out in the forest to be inspected annually, the New Forest Verderers' Court has agreed to add a provision that marking might be dispensed with in special cases at their discretion.

## ABSTRACTS

[**I. Canine Encephalitis.** Whittem, J. H. & Blood, D. C. (1950.) *Austral. Vet. J.* **26.** 73–83. (1 table. 10 figs. 7 refs.)

**II. Canine Distemper and Distemper-like Diseases.** Steel, J. D., & Whittem, J. H. (1950.) *Austral. Vet. J.* **26.** 197–207 with discussion. (32 refs.)]

The original articles should be read by all interested in the problem of canine encephalitides.

I.—The first is a detailed pathological investigation of 52 cases, obtained from the Veterinary Clinic, Sydney, in 1948-49, which were approximately 17 per cent. of 738 canine patients. They were grouped as follows:—

Group I. "*Focal gliosis*" (29 cases).—This type was characterised by acute focal gliosis with demyelination in cerebellar folia or peripheral areas of the brain stem, or both, but with no perivascular cuffing in the brain or spinal cord. Inclusion bodies were present in glial nuclei in 22 cases, pulmonary lesions in 18, and hard pads in eleven. Clinically there was marked severity of symptoms, shortness of course (three to 28 days) between onset of nervous signs and death, and high mortality; ocular and nasal discharge was seen in 23 cases, a febrile reaction in 16 and the ages ranged from three to 24 months.

Group II. "*Perivascular diffuse gliosis*" (19 cases).—In this group demyelinating lesions were more diffuse, bulky intranuclear inclusions in glia occurred in eight days and in every case there were marked mesodermal infiltrations in the perivascular spaces. Clinically the disease was characterised by the long duration of nervous signs (one to 12 weeks) and only moderate severity of symptoms. Thirteen were destroyed, but had been able to lead a normal existence except for tremors, weakness and some ataxia. Ocular discharge was less common, fever was present in five cases, hard pads in two, fits were rare and there was more marked individual variation between dogs of this group.

Group III. *Neuronal degeneration* (two cases).—The lesions were located mainly in the cerebral cortex and neuronophagia was prominent. Cytoplasmic inclusions were found in renal pelvis epithelium in one case. Both cases had a history of sudden onset, with severe clonic convulsions and one had been vaccinated against distemper; this latter case showed anorexia, diarrhoea, purulent ocular discharge, but no fever or hard pads, while the other case was normal until the onset of fits.

Group IV. *Neuronal degeneration and demyelination* (one case).—This case had a subacute course with fever and vomiting, before the onset of coarse tremors and convulsions which lasted one day before death.

Group V (one case).—This case included in the records was one of Rubarth's *Hepatitis contagiosa canis* to which there has been sufficient attention paid in these columns recently.

There was much individual variation of cases in the different groups when attempts were made to relate clinical course and pathology. No constant relationship existed between type and site of nervous lesions, although the authors mention that the CNS was not completely and perhaps adequately examined in every dog. They state that clearly the hard pad virus may have been involved aetiologically in the first group and for some of the cases in the second group, but infection may not have been severe or of such long-standing duration. In spite of the varied clinical picture a diagnosis of "encephalitis" could be made in

each case (*i.e.*, in the sense of some disease of the nervous system of uncertain type, severity and distribution of lesions), but no conclusions could be reached about cause from the available clinical data and prognosis was thus extremely hazardous.

II.—The second paper to some extent is a follow-on from the first. In the introduction the authors retread the ground covered in other articles which have appeared in these columns and which have indicated the complexity of the problem as a whole. Some attention first is given to the established systemic diseases in which there may be neurological manifestations, *viz.*, distemper, hard pad disease and fox encephalitis (*Hepatitis contagiosa canis*) and in which there is little new. The remainder of the paper is a consideration of results of original observations and is highly important, and patently is a forerunner of an intended investigation which will help to make for much better understanding. Neurological syndromes are discussed under:—(1) *Epileptiform seizures* which occur in dogs without any focal localising signs; when such signs as tremors, ataxia and paresis are not seen prime consideration should be given to the possibility of functional disorders (of which Parry has given an adequate analysis in *The Veterinary Record*). This applies only in so far as there are no systemic signs of distemper. The authors state that epileptiform seizures are spectacular events and difficult to interpret and that it seems desirable not to over-emphasise their importance in association with canine encephalitis. In the latter it is more profitable to concentrate on analysis of more permanent signs of nervous derangement. (2) *The tremor syndrome* (chorea of old text-books). This is accompanied, but not invariably, with a history of systemic " distemper " and is characterised by muscle tremor, weakness and disorders of muscle tone and which all form a symptomatic cycle around which the animals may progress in any direction. It may affect muscles supplied by the cranial nerves, the muscles of the neck, one limb or bilaterally the shoulders and pelvic girdle. It may occur in acute or chronic forms, the former being more common—and in these the duration is a few days or a few weeks. Chronic cases may recover spontaneously, and provided the damage is not too severe, may live indefinitely. Inflammatory lesions may be found in any region of the brain, but in these cases they were constantly present in the cerebellum and the roof of the fourth ventricle and commonly so in brain stem, cerebral cortex and caudate nucleus. (3) *Cerebellar syndrome*. This type is characterised by sudden onset, exacerbations and remissions and with no systemic signs of infection; the age incidence is higher; the ataxia is marked with wide-based gait and there is fine static tremor. Nothing is known of the aetiology and pathological studies are as yet incomplete. (3) *Frontal lobe syndrome*. The dogs in this group usually had a history of " systemic distemper "; clinically there were forced circling towards the side of the lesion, disturbances of vision, and hypermotility (animals keep on walking). Nothing is known of aetiology and pathology.

The above is followed by a discussion on the aetiology of neurological disorders in dogs and with reference to the authors' personal experimental work. They draw attention to the numerous anachronisms in the reported findings of the many papers on canine encephalitis which have appeared in the literature of the last three years, and to which no adequate reference can be made in an abstract, nor to the lengthy discussion.

J. R. M. I.

[As a whole the papers once more emphasise with clarity the intricacy of the totality of the canine encephalitis complex and that there is still manifestly a long way to travel before even a reasonably good understanding will be obtained. In essence work at all times should embrace clinical and pathological studies dovetailed closely into well-controlled experimental projects and, as the abstractor has emphasised repeatedly, debates centred around clinical studies alone are virtually of no value. It is doubtful whether any of the varieties of canine encephalitis have any strict analogy with the post-infective (exanthem) encephalitides of man; post-vaccinal encephalitis in dogs would seem to occur only after rabies vaccination. The authors (Steel and Whittem) make brief reference to experimental work on so-called experimental allergic encephalitis and state that they succeeded in producing this condition in puppies by injections of normal rabbit brain, but no pathological details are given. A disseminated demyelinating encephalitis has been produced in dogs by Thomas *et al.* (1950) (*J. Exp. Med.* **92.** 133) using the same technique (and by the abstractor). It would appear that this may have solved the problem of the cause of the post-vaccinal encephalitis (following rabies vaccination) in dogs. The mechanism involved in allergic encephalitis, however, is still unknown; consequently the possibility that encephalitis can be invoked in dogs (as hypothetically suggested by some workers to occur in man) by some unknown " natural cause " or after prophylactic inoculation of tissue other than brain should be borne in mind. The authors' remarks on functional states of the dogs' nervous system should be tempered by the results of recent investigations in the U.S.A. on pathological changes found in the nervous system of dogs suffering from " experimental hysteria." Ideas on the latter may thus require to be modified. Silver (1949) (*J. Neuropath. Exp. Neurol.* **8.** 441) and Lewey (1950, *Ibid.* **9.** 396) have both shown that in experimental dogs, in which " epilepsy " was induced by feeding flour bleached with nitrogen trochloride, there are pronounced necrotising lesions in the nervous system but specifically affecting the Purkinje cells, their afferent and efferent fibres.—*Abstractor.*]

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**[Surgical Treatment of Gangrenous Mastitis.** Lenert, A. A. (1950.) *N. Amer. Vet.* **31.** 660-661.]

It is pointed out that drainage is an important factor in this form of mastitis. Incisions into the affected quarter are regarded as unsatisfactory. Amputation of the appropriate teat flush with the quarter is recommended and the instrument of section is the ecraseur. If the teat is not gangrenous, infiltration anaesthesia of the teat base is practised. Haemorrhage is seldom troublesome, but if excessive it is controlled by ligature or forci-pressure. Irrigation and systemic treatment are adjuncts to the surgical measures.

C. F.

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Weekly Wisdom

*We will never really be successful in our task until those in the towns get closer to the soil and consequently begin to understand that unless we act now we may find ourselves on a standard of living which will be unbearably low.*—Earl of Shrewsbury, President, addressing the Association of Agriculture.

## REVIEW

**[Diagnostic Methods in Veterinary Medicine.** By Professor G. F. Boddie. Third Edition, pp. 389 with 50 illustrations including 8 coloured plates. Edinburgh: Oliver & Boyd, Ltd. 20/- net.]

That a third edition of this work has been called for in six years speaks volumes for its general excellence and its usefulness to the veterinary profession and students alike.

The author has taken the opportunity to revise some of the text and to make some additions, bringing it up to date so far as the rapid advances in veterinary medicine permit, such as the recent developments in tuberculin testing, urine analysis and clinical biochemistry in general. The chapters on clinical bacteriology and helminthology have been extended. That on clinical haematology has been revised by Dr. Holman, the original contributor, as is that on poultry diseases introduced by J. C. Campbell into the second edition. The illustrations and particularly the coloured plates are excellent, while the printing, binding and general make-up of the book in the present difficult conditions are up to the high standard expected from the publishers.

We welcome the appearance of this third edition.

## REPORT

**[The All-India Society for the Prevention of Cruelty to Animals.** Annual Report, 1949.]

This is in reality a collection of the reports of 42 societies and branches within the Federation. In almost every case the same theme of struggle against inadequate finance and local ignorance is heard. On pitifully small budgets each of these societies is doing a great deal of valuable propaganda amidst a people essentially insusceptible to animal suffering, and who for a variety of reasons actively indulge in disgusting practices which in many cases result in excruciating cruelty.

It is interesting to see how each different constituent society tackles the common problem. In almost every case prosecutions take precedence, the most common being for overloading. Other activities include the administration of animal hospitals, provision of water troughs and food for animals of the poor, of first aid stations, and of motor dispensaries and ambulances, and in at least one case, an endeavour to bring about the abolition of animal sacrifices.

The All-India S.P.C.A. continues to function as spokesman for the Federation of constituent animal welfare societies to the Government, to the Press of India and to the Press of the world. It has accomplished much, but even more must still be done. N. M.

### ROYAL SOCIETY FELLOWS

The 25 new Fellows elected by the Royal Society at a meeting of the Society in London on Thursday of last week included J. S. K. Boyd, Director, Wellcome Laboratories of Tropical Medicine, London; D. G. Catcheside, Reader in Plant Cytogenetics, Cambridge; S. J. Folley, Head of Department of Physiology, National Institute for Research in Dairying; D. Lack, Director, Edward Grey Institute of Field Ornithology, Oxford; T. R. R. Mann, Member of Staff, Agricultural Research Council; A. Neuberger, Biochemist, National Institute for Medical Research, London; J. A. Prescott, Director, Waite Agricultural Research Institute, Adelaide, South Australia; T. A. Stephenson, Professor of Zoology, University College, Aberystwyth; W. H. Thorpe, Lecturer in Entomology, Cambridge, and P. J. du Toit, President, Council for Scientific and Industrial Research, South Africa.

## Disciplinary Committee, R.C.V.S.

### Important Ruling Regarding the Conduct of Assistants

On Wednesday, February 28th, 1951, the Disciplinary Committee, R.C.V.S., composed as follows:—

Chairman: Mr. H. W. Dawes, C.B.E.,

Members: Mr. L. Guy Anderson, Professors G. F. Boddie, J. B. Buxton, R. E. Glover, Captain T. M. Mitchell, Professor L. P. Pugh, Major H. Sumner, Mr. W. L. Weipers,

Legal Assessor: Mr. E. V. Falk, Barrister-at-Law,

Registrar: Mr. W. G. R. Oates, Solicitor,

considered the following complaints:—

Complaint against Mr. Frank Colebrook, of 25, Doncaster Road, Scunthorpe, Lincolnshire, who was admitted to the Register of Veterinary Surgeons in virtue of the Diploma of M.R.C.V.S. on July 9th, 1947, from the Royal (Dick) Veterinary College, Edinburgh.

Complaint submitted by Mr. William Whyte Lang, of Albert Street, Brigg, Lincolnshire.

Mr. Lang will be represented by Viscount Hailsham, Barrister-at-Law, instructed by Messrs. Joynson-Hicks & Co., Solicitors.

Mr. Colebrook will be represented by Mr. W. K. Carter, Barrister-at-Law, instructed by Messrs. Bird & Bird, acting as agents for Messrs. Sergeant & Collins.

*First Complaint*

"That you, on or about March 8th, 1950, contrary to the honour which should exist between members of the Royal College of Veterinary Surgeons, did, without the consent of your former principal—Mr. W. W. Lang, M.R.C.V.S., Sunnydene, Brigg, Lincolnshire—set up in practice in opposition to him within the area of his practice after having been dismissed by him and before the lapse of a reasonable time following such dismissal; and that, consequently, it is alleged, you have been guilty of conduct disgraceful in a professional respect within the meaning of Section 6 of the Veterinary Surgeons Act, 1881, having regard to the resolutions of the Council of the Royal College of Veterinary Surgeons regarding conduct disgraceful in a professional respect, paragraph 1 (*a*) 'Assistants and Pupils':—

> "An assistant or a pupil, whether required to sign a bond or not, is bound in honour not to set up in practice for himself in the district covered by the practice of his former employer or extra-mural teacher, except with his consent, which should be in writing and expressed in clearly defined terms.
>
> It, therefore, follows that an assistant or former pupil who does so engage in practice without such consent before a reasonable lapse of time may be deemed guilty of conduct disgraceful in a professional respect.
>
> The Council in arriving at such a decision will judge each case on its merits, and will take into consideration all the factors which might have existed had a reasonable bond been signed by the parties concerned.
>
> Notwithstanding the foregoing the Council strongly recommends that a bond be entered into between principal and assistant or between extra-mural teacher and pupil."

*Second Complaint*

"That you, on or about March 11th, 1950, did advertise in *The Evening Telegraph* for Saturday, March 11th, 1950, as follows:—

> Professional
>
> Commencement of Practice—Mr. F. Colebrook, M.R.C.V.S., Veterinary Surgeon, 25, Doncaster Road, Scunthorpe. March 8th, 1950. Tel. 3979

and that such advertisement of your professional services is contrary to by-law 53 of the Royal College of Veterinary Surgeons which prohibits advertising or causing or permitting other persons to advertise for or on behalf of a member of the Royal College of Veterinary Surgeons whether by paid advertisement or by editorial or other notice in the public Press; and that consequently, it is alleged, you have been guilty of conduct disgraceful in a professional respect within the meaning of Section 6 of the Veterinary Surgeons Act, 1881, and having regard to the resolutions of the

Council of the Royal College of Veterinary Surgeons regarding conduct disgraceful in a professional respect under the heading 'Advertising,' paragraph 2 set out as follows:—

"The Council desires to draw attention to the old-standing by-law No. 53(i) whereby any of the following practices on the part of a member are considered by the Council to amount to conduct disgraceful in a professional respect:—

(i) Advertising or causing or permitting other persons to advertise for him, whether by paid advertisement or by editorial or other notice in the public Press, or distributing or causing or permitting to be distributed circulars, books, or cards relating to his professional attainments or abilities or charges, or in respect of medicine or appliances prepared or sold by him.

In elaboration of the above the Council desires to add the fol'owing:—

It is conduct disgraceful in a professional respect if any member of the Royal College of Veterinary Surgeons should attempt to secure clients or to gain a reputation by means of any kind of advertisement which is elaborated by paragraph 2(*e*):—

"(*e*) Change of Address, Changes in Partnership, New Practices. In the case of a change of address or of a change in partnership it is permissible for a circular letter to be sent under cover to all bona fide clients of the practice. No announcement should be made in the public Press, except such as may be required in law in the case of a partnership change of partners. Where a member is setting up a new practice it is not permissible to make any announcement thereof in the public Press."

At the commencement of the case Mr. Carter, on behalf of Mr. Colebrook, informed the Committee that his client admitted the facts in the charges and that he, counsel, therefore proposed to address the Committee in mitigation of the charges.

Lord Hailsham, for Mr. Lang, outlined the facts and informed the Committee that Mr. Lang did not pursue this matter in any spirit of vindictiveness but only to sustain the rules and honour of the profession. His client had, in fact, been prejudiced by the practice set up so near his own and he should not be left at the end of the proceedings in a worse position than if Mr. Colebrook had obeyed the regulations of the Royal College.

Mr. Carter, on behalf of Mr. Colebrook, mentioned the facts leading up to his client's leaving the employment of Mr. Lang and setting up in practice on his own account. He informed the Committee that his client had done this in error, having misunderstood certain portions of the "Handbook for Veterinary Surgeons" written by the late Dr. Bullock. He expressed his client's sorrow and offered the Committee certain undertakings on his behalf.

After the Committee had considered its verdict, the parties were recalled into the Council Chamber. The Chairman, addressing Mr. Carter for Mr. Colebrook, said:—

"I have to inform you that the Committee has considered the complaint against your client, Mr. Frank Colebrook, and the Committee are of the opinion that the case against him has been proved to the satisfaction of the Committee, in that Mr. Colebrook has been guilty of conduct disgraceful in a professional respect.

The Committee has, subject to an undertaking, resolved that his name be not removed from the Register of Veterinary Surgeons; the undertaking being that he will forthwith close the practice at present carried on at 25, Doncaster Road, and will not sell or dispose of the said practice to any person, and that he will refrain from carrying on practice within a radius of 15 miles of the towns of Scunthorpe and Brigg for a period of five years."

Mr. Carter said: "I am specifically instructed to give that undertaking to the Committee."

The Chairman then, directly addressing Mr. Colebrook, expressed his sorrow at the position in which he (Mr. Colebrook) found himself and warned him as to his future conduct.

# IN PARLIAMENT

## Commons Debate the Gambia Poultry Scheme

NARROW GOVERNMENT MAJORITY AGAINST CONDEMNATORY OPPOSITION MOTION

After an animated debate on March 13th, the House of Commons, by 299 votes to 291, negatived the following Opposition motion, submitted by Mr. Lennox-Boyd:

"That this House regrets the financial losses caused by the collapse of the Gambia Poultry Scheme, which had been launched without adequate consultation or any preliminary pilot scheme to discover whether the poultry could be kept in healthy production or the necessary feeding-stuffs grown in the Colony."

Mr. LENNOX-BOYD said that this further heavy financial loss on the eve of a Budget which was bound to put fresh burdens on the people, must raise grave doubts whether this was the last of many failures of the present administration. No blame whatever could be attached to the new Chairman of the Corporation, Lord Reith, who had acted promptly and honourably. Since his arrival, it had been much easier to get information about the activities of the Corporation. A substantial part of the £825,000 which had already been advanced for the plan would have to be written off. The scheme had been designed to produce 20,000,000 eggs a year and 1,000,000 lb. of dressed poultry for the home market. A negligible quantity of poultry had arrived and some 38,000 eggs. If £800,000 had been spent on British agriculture and on getting feeding-stuffs, our own producers could have produced some 72,000,000 eggs. The money spent on food imported into the Gambia for poultry there would have produced 4,000,000 eggs here. On a smaller scale the Gambia scheme reproduced all the hallmarks of the groundnuts scheme. In the last two years, side by side with the egg scheme in the Gambia, the private enterprise producers of Gambia had exported 60,000 tons of groundnuts, which was 12 times as much every year as the entire production over three years of the Government's groundnuts scheme.

There had been the same lack of candour about taking the House and the country into the confidence of the Corporation as Ministers showed over the groundnuts scheme. "I think I must buttress up that general remark with one or two specific illustrations," continued the speaker. "Take the example of the poultry themselves. The Annual Report of the Corporation for the year ending 1949 was presented to Parliament in July, 1950, and on page 2 it says: 'the health . . . of the flocks'—in the Gambia—'is excellent.' Yet a week ago we were told by the Secretary of State that that very summer—and it was in July that the statement was made—50,000 of the birds, three in every eight, died of fowl typhoid. In July we were told, with no hint of trouble to come, that the health of the flocks was excellent.

"In the same Report we were told: 'the . . . fertility of the flocks is excellent.'

"That came to the notice of the House in July, yet we now know that in March of last year Dr. Gordon, of the Animal Health Trust, had flown out to the Gambia to advise specifically on the failure of the fertility of the flocks. Again, in that same month, when Dr. Gordon was on his way to the Gambia, the Secretary of State said in this House, with no hint of trouble to come, that the scheme was proceeding satisfactorily.

"So much for the poultry. I suppose the real, the greater, charge relates to the failure to appreciate the difficulties of growing the feeding-stuffs, for on that the scheme has broken down. Now consider for a moment what Parliament has been told about that. In July, 1950, only last year, we were told in the Report: 'There is good reason to expect that at least 50 per cent. of the food required will be locally produced this year'—that is last year—'and it is hoped that 75 per cent. will be' locally produced in 1951. We now know from Parliamentary answers this week that 2,300-odd tons have been imported into the Gambia, and that last year alone, while this statement was being made, 1,417 tons were actually imported. On what possible basis could the assumption have been made, and the virtual undertaking given, that this year 75 per cent. of all the feeding-stuffs would be produced in the Gambia.

"Even more astonishing statements can be found if we turn to some of the statements made by the Minister of State for the Colonies, and in particular in some of the airy assurances he gave in this House in April, 1950. He then repeated the old argument that there would be 20,000,000 eggs in due course. He was quite rightly questioned from the Liberal benches with a whole series of very pertinent questions. At this time Dr. Gordon was already there, or had gone out and, as far as I know, was there. But no

hint of the difficulty was allowed to creep into the Minister of State's answers. He was asked from the Liberal benches: What about soil erosion? What about vitamin deficiencies?—which must have been deeply agitating the Colonial Office at the time. Finally, in a very excellent question by the Liberal Whip he was asked whether the Gambia could not be helped in a more sensible way than this, in a better way. What did the right hon. Gentleman reply? When asked whether the Gambia could not be helped better in another way he replied: 'No, Sir'—as if this really was the way to help the Gambia. Then he added: 'I think that this scheme is starting off very successfully.'—[*Official Report*, April 26th, 1950; Vol. 474, c. 950.] It is our contention that by that time anyhow there must have been the gravest doubts in the Colonial Office and the Overseas Food Corporation."

**Mr. Hurd, seconding, said that for more than a year Opposition** members had been asking questions about the scheme, but Ministers had been blandly misleading the House. Dead and dying poultry seemed to be the main features of the scheme. Last year 30,000 died of typhoid. "If I ran my poultry like this I would have been prosecuted long ago by the R.S.P.C.A. My hens produced 38,500 eggs last month, let alone last year."

### Medical Research Council's "Warning"

Dr. R. A. Webb, one of the team engaged in human nutritional research (for the Medical Research Council) in the Gambia, in the memorandum prepared on behalf of the Medical Council, and sent to the Colonial Development Corporation, had pointed out clearly the fundamental trouble in the Gambia, whether we were trying to grow crops for human beings or hens. He said: "The population of the Gambia is reaching, if it has not already reached, a level above which the land is unable adequately to supply the food required for reasonable living standards. Attempts to increase food production by more extensive cultivation, particularly if produce is exported, will wreck the efficiency of the shifting system and precipitate a rapid decline in fertility." That was the warning which the scientific worker employed by the Medical Research Council had had to give to the Colonial Development Corporation. What a pity such considerations were not in the minds of the Corporation before they started this scheme.

We must get all these schemes, however promising they looked, vetted properly by men who knew something about the tropics, about rainfall, or about producing poultry or whatever the project might be. There was always someone, somewhere in the world, who had done, or who had tried to do, something similar, maybe with success, or maybe not. There was always advice to be got which was based on experience. These were the men whose opinions must be sought out and tested before a novel project was started.

Mr. J. Griffiths, Secretary of State for the Colonies, said that the Opposition were subordinating and surrendering any interest in colonial welfare to partisan ends. The implication of the motion would be that, because one scheme had failed, the Corporation as an instrument and the whole idea had failed as well. He hoped there would be opportunities for the House to discuss the Report as a whole, without bias. When the new Chairman of the Colonial Development Corporation was appointed he had pointed out to him that the Corporation had been in existence three years, and had 50 schemes running in 20 territories, and asked him to review the organisation of the Board in London and the Colonies. He was now considering what changes should be made, but any change in the relationship between the Board, the Colonial Office, and the Government was a matter for the House of Commons. If the Opposition meant to demand that the Secretary of State should accept full responsibility for every detail of these schemes they should have said so plainly. That would be a radical change. When the annual report of the Corporation was published in a short time the House would be able to read their views on the future of the schemes. The right course would have been to await a further report on the Gambia scheme, on which, so far, the Government had had only a preliminary report.

### The History of the Scheme

The right hon. Gentleman then gave an outline of the history of the scheme, saying that the Gambia was one of those Colonies in which the problem of poverty was most urgent and in which, therefore, there were people who deserved our help as quickly as possible. With this in mind, because they had submitted a full report to the Corporation, in April, 1948, as the Corporation's initial project, Lord Trefgarne sent a mission to the territory to examine the possibility of establishing a large-scale poultry farm. The mission consisted of an American with long experience of large-scale poultry rearing in the Bahamas, and an accountant from the staff of the Corporation. They went out, and they submitted a favourable report upon a project for a scheme such as the one they were now discussing.

"On July 12th, 1948, the Corporation submitted to the Secretary of State an application for sanction for £500,000 for clearing 10,000 acres of bush and the establishment of a farm primarily devoted to the production of eggs and poultry. The Gambia Government welcomed the scheme, and, after consultation with the Treasury, sanction was given by the Secretary of State on July 21st, 1948.

"Within this first sanction of £500,000, the Corporation obtained direct Treasury authorisation for dollar expenditure which ultimately reached $297,538, mainly for heavy equipment and for initial supplies of special poultry equipment and hatching eggs from a proved tropical strain. Clearing started in October, 1948, and, as it proceeded, the Board reported that more tractors had become necessary. It was therefore decided, on March 18th, 1949, to give sanction for a further sum of £200,000.

"The initial hatchings in the spring of 1949 were said to be reasonably successful, and, by July, 1949, the site was about three-quarters cleared and 3,500 acres had been sown for a variety of food crops. Then, in August, 1949, the Corporation applied for a further £110,000 of working capital, which it then estimated would be sufficient to carry on the scheme until September, 1950. By that time, the Corporation expected, and indeed so informed me, that the scheme would be self-supporting and, therefore, on August 31st, 1949, that sanction was given, bringing the total capitalisation to £810,000.

"In March, 1950, the first serious difficulties were encountered with the discovery that the first season's crops had been a failure. In other respects, it was stated that land clearance and building construction were almost completed, and that a temporary egg fertility set-back was then being overcome. In July, 1950, a review by the Corporation showed that there were healthy flocks of 79,000 birds, and there began small-scale shipments to our own country. The management reported in July, 1950, that they were confident that the crops would be grown, and, against this background of what appeared to be substantial, if uneven, progress, approval was given on August 22nd, 1950, for a temporary loan of £100,000 as being the final requirements before the project would become self-supporting. Altogether, £832,509 had been withdrawn by December 31st, 1950.

"A further report to the Board in October, 1950, showed that a severe outbreak of fowl typhoid had cost 30,000 birds and that hatchings had dropped steeply. Most serious of all, sowing had been unsuccessful, and low crop yields were bound to result. It has been quite clear from the beginning that the mechanics of the scheme were based upon the practicability of growing in the Gambia itself the foodstuffs required for the farm.

"In December, 1950, a further comprehensive review was made by the Board, they decided on a change of management, and sent out a mission to report. It was a mission composed of employees of the Board. As I told the House on February 28th, we received a preliminary unfavourable report from the mission early in February, and that report on future crop prospects made it necessary for the Board to reconsider the future of the scheme."

The question had been asked whether it would have been better and more desirable to have launched a pilot scheme. Who was going to decide whether there should be a pilot scheme or not? So far, in the three years during which the Corporation had been in existence, it had been definitely understood that that was a matter for them to decide. "If this House now wants the Secretary of State to decide, very well, then, we must change the whole conception of the scheme." So far, they had taken the view that this was a matter which should be left to the Coroporation to decide. "If the Secretary of State for the Colonies is to decide, then this House must realise what that means. In that event, I, as Secretary of State, shall ask, in fairness to my Department, for permission to equip the Colonial Office to do the job. I shall have to have people in the Colonial Office with technical, scientific and commerical knowledge in order to advise me on such matters."

Mr. Beresford Craddock: "Would it not have been prudent for the Corporation, before deciding on this scheme, to have consulted the right hon. Gentleman's own technical staff who know Africa well, and who, I have no doubt, would have counselled prudence?"

Mr. Griffiths: "It is perfectly clear that the Corporation can at any time consult the Colonial Office concerning any available information and advice about the Colonial Territories, Gambia and elsewhere, and also seek the advice and guidance of its advisers. But, having sought that advice, where necessary, the decision about the scheme is still the responsibility of the Board itself."

Mr. Thomas Reid: "Is it not a fact that on this Colonial Development Corporation there was one of the greatest experts on Colonial agriculture, my friend the late Sir Frank Stockdale, who was also a practical man?"

Mr. Griffiths: "The late Sir Frank Stockdale was indeed one of the members of the Board who approved this scheme, but I made no reference to him for the reason that my hon. Friend pointed out.

"The Colonial Development Corporation has now been in existence for three years, and, as I have already said, has some 50 schemes in operation. We discussed this question in the debate last October and also the question as to whether the Corporation ought to pause or not. The most immediate question is that of organisation. I know that the new Chairman has been devoting himself to these problems."

Mr. Keeling said that whatever the Secretary of State might say about the Opposition raising this matter, it was certain that the taxpayers were intensely interested in how nearly £1,000,000 advanced by the Treasury to the Corporation had been used. He had been told that the supervision of the machinery used in sowing was totally inadequate and the machinery was not properly used. It was a waste of money to buy machinery at all since sowing by hand was so much more successful. They were informed by the Corporation in May, 1949, that they were shortly expecting the arrival of Rhode Island fowls. He did not know when they actually arrived but he was told that right up to the early part of 1950—he supposed long after they arrived—there was no veterinary surgeon in residence. He would like to know if that was correct.

Mr. Ellis Smith said he was satisfied with the leading article in *The Times* that day on the Gambia egg production scheme. The Colonial Development Corporation was a good idea, but it was essential that the House should prevent things happening which brought discredit on the development schemes.

Mr. Nugent asked how long the survey party stayed in the Gambia. He understood it was under a week. Was the whole of this vast scheme surveyed in this short time by men who had never been there before and who then came home, drew it up and put it before the Corporation who then decided to spend nearly £1,000,000 of the taxpayers' money?

"The question of the failure of the crops has already been dealt with, but I want to deal with the failure of the chickens. The chickens were laid out on a system there which was suitable for them in the Bahamas. They were laid out in small units, about 1,500 to the acre, in small, open shelters. In the Bahamas, I imagine, there is a moderate rainfall; they do not have it at the rate, anyhow, of up to two inches an hour. What happened under the system put down in the Gambia was that infestation from poultry cropping gradually was set up, and when the heavy floods came down the whole of this area was under water. The chickens were practically floating about. They must have thought by then that they ought to have had ducks instead of chickens.

"Not only did they lose a lot that were drowned, but there was started the infection of fowl typhoid. We could have told the management out there that under conditions of heavy density of poultry flocks in high humidity fowl typhoid does eventuate. It occurs in some Welsh valleys, and in the Orkneys, and generally where there is a heavy rainfall and an intensive poultry cropping. That disease could have been avoided if the best opinion in this country had been consulted before the scheme was laid down. On the rest of the poultry picture, I do believe, to give credit where credit is due, that the strain of the chicken in the first place must have been good, for they have had to put up with a great deal."

He hoped hon. and right hon. Gentlemen opposite would have realised from this disastrous experiment that it really was not the job of State organisations to set out on commercial units. "Let them stick to their proper schemes of research, development and basic services and leave the commercial units to the private trader, and then we shall have success both for them and for the country as a whole."

### The Reply

Mr. Dugdale, Minister of State for Colonial Affairs, in the course of his reply to the debate, said that one question asked by Mr. Keeling was "Was there for over a year no veterinary surgeon on the farm?"

Mr. Keeling: "No, I did not ask that."

Mr. Dugdale: "Well, if the hon. Gentleman did not ask that specifically, he asked about the veterinary advice we had received, and implied——"

Mr. Keeling: "No. What I said was this. If it is true, as was forecast, that the Rhode Island birds arrived about the middle of 1949, is it correct that there was no veterinary surgeon there for the whole of the rest of that year?"

Mr. Dugdale: "The point is that the Corporation did in fact appoint the Animal Health Trust as advisers to the project in December, 1948. The Director of their Poultry Research Station was first called on to visit the farm in March, 1950, when the problem of egg infertility arose due to vitamin deficiencies in the diet. This was remedied. No fowl disease of any kind occurred until August, 1950, when fowl typhoid caused the loss of 30,000 birds before vaccine overcame it.

"The Corporation appointed a full-time veterinary officer at the end of 1950. There is a veterinary officer appointed by the Governor of Gambia who was also consulted as need arose. Broadly speaking, the position is that there is a general practitioner available, and he is consulted in the first instance. If anything occurs which required the experience of a man who deals specifically in poultry diseases, he is sent for, after the general practitioner has been and given his opinion. That in fact is what is done in most cases of human disease."

The debate (concluded the Minister) was designed by the Opposition to lay blame on the former Chairman of the Corporation, Lord Trefgarne, because he previously belonged to the Labour Party. But the other members of the Board, all with extensive business experience, could not disclaim their share of responsibility. Once these men had been appointed it was the duty of the Government to leave matters of business administration to them, and if there had been a failure they must accept equal responsibility with the Chairman.

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## Questions

### Ministry of Agriculture's Veterinary Staff

Colonel Ropner (March 15th) asked the Minister of Agriculture whether, in view of the shortage of veterinary surgeons, he is taking any steps to increase his Department's veterinary surgeon staff.

The Minister of Agriculture (Mr. Thomas Williams): Yes, Sir. A competition for the recruitment of veterinary officers was held last summer, another is in progress, and the Ministry of Labour has been asked to submit names for temporary appointments.

Colonel Ropner: I apologise to the Minister for not being able to hear his reply, but did he say that he is satisfied that the number of veterinary surgeons will be adequately increased in the near future?

Mr. Williams: No, Sir. Unfortunately, the number of candidates are insufficient to meet the vacancies. I am hoping that we shall be able to get more veterinary surgeons.

Mr. Drayson: Is the Minister satisfied that the remuneration which his Department is paying to veterinary surgeons is equivalent to what they can get in private practice? Will he look into the question of their pay?

Mr. Williams: That is not the Question on the Order Paper.

Mr. Vane: Is the Minister satisfied that the capacity of the Royal Veterinary College is sufficient to maintain the present number? [Doubtless "Veterinary Colleges" was meant.—*Editor.*]

Mr. Williams: As the hon. Member may be aware there is now a veterinary section at Bristol University, and also one at Cambridge, and I hope that fairly quickly we shall have sufficient veterinary surgeons to meet our needs.

. . . .

### Gambia Poultry Project

Mr. Gammans (March 16th) asked the Secretary of State for the Colonies on what date his agricultural advisers were first asked by the Colonial Development Corporation to report on the possibility of growing poultry food in the Gambia; and what expenditure had already been incurred by that date.

Mr. J. Griffiths: The Corporation did not seek the help of my advisers, but before the Poultry Farm project was launched the Corporation despatched its own mission to the Gambia to report *inter alia* on the possibility of growing poultry feed.

Mr. Gammans asked the Secretary of State for the Colonies to what extent the professional advice of the Colonial Office was sought by the Colonial Development Corporation before an American citizen, Mr. M. J. Phillips, was appointed to run the Gambia poultry scheme; and on what terms he left.

Mr. J. Griffiths: The appointment of staff is a matter for the Corporation. My Department was not consulted on the appointment of Mr. Phillips.

Mr. Gammans asked the Secretary of State for the Colonies what enquiries were made by the Colonial Development Corporation of his Department of Animal Health as to the practicability of rearing large-scale commercial poultry in the tropics before the Gambian poultry scheme was launched; and what reports he has received on the results of poultry schemes of this size which have proved successful under tropical conditions.

Mr. J. Griffiths: The Corporation made its own investigations and did not request the assistance of my Adviser on Animal Health. I have received no reports on schemes of a similar size which may have been launched in tropical conditions

### Fowl Pest

Mr. Bossom (March 15th) asked the Minister of Agriculture whether, as there have been 254 outbreaks of fowl pest in England and Wales and four in Scotland during the month of January alone, he yet has any proposals to overcome this problem.

Mr. T. Williams: I would refer the hon. Member to my reply to the hon. Member for Eye (Mr. Granville) on March 2nd. It would seem that the steps that have been and are being taken by my Department to deal with the disease are producing encouraging results. The number of outbreaks during February fell to 156, of which 128 were in England and Wales, and there were only eleven outbreaks in the first eleven days of March.

Mr. Bossom: While thanking the Minister for the good work he is doing, may I ask if he will look into the question of the importation of fowls from fowl pest infected countries, which is concluded to be the main cause of this trouble?

Mr. Williams: I can assure the hon. Member that that is under very anxious consideration.

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### Horses (Export)

Lieut.-Colonel Lockwood (March 15th) asked the Minister of Agriculture the number of live horses exported from this country to Northern Ireland during the last 12 months, giving the monthly figures for that period.

Mr. T. Williams: As the reply involves a tabular statement I will, with permission, circulate it in the *Official Report*.

*Following is the statement*:

| Period | Number of horses sent to Northern Ireland |
|---|---|
| | *Number* |
| 1950 | |
| March ... ... ... ... ... ... ... | 12 |
| April ... ... ... ... ... ... ... | 2 |
| May ... ... ... ... ... ... ... | 15 |
| June ... ... ... ... ... ... ... | 10 |
| July ... ... ... ... ... ... ... | 18 |
| August ... ... ... ... ... ... | 7 |
| September ... ... ... ... ... ... | 15 |
| October ... ... ... ... ... ... | 9 |
| November ... ... ... ... ... ... | 10 |
| December ... ... ... ... ... ... | 8 |
| 1951 | |
| January ... ... ... ... ... ... | 4 |
| February ... ... ... ... ... ... | 0 |
| | 110 |

These figures exclude horses sent into Northern Ireland solely for shows and with circuses, as these horses eventually return to their country of origin.

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### Aureomycin

Lieut.-Colonel Sir Thomas Moore (March 15th) asked the Minister of Health whether he is aware that there is a great shortage of aureomycin in this country to meet the requirements of the medical profession; and what steps he is taking to make good the deficiency.

Mr. Molson asked the Minister of Health what steps have been taken to ensure the availability of aureomycin.

Mr. Marquand: A recent temporary shortage has now been overcome. Deliveries of aureomycin in capsule form from the British factory are adequate to meet present needs.

Sir T. Moore: As you know, Mr. Speaker, I have raised this matter before, but I have a particular reason for raising it again. Does the right hon. Gentleman recall that we were recently informed that the former Foreign Secretary had his pneumonia cleared in three days as a result of using aureomycin? That being so, will he not take further action in order to make it readily available to every section of the community?

Mr. Marquand: I am assured that it is readily available. There was a delay due to initial technical trouble at the South Wales factory, but that has now been remedied and there is an adequate supply.

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### Imported Reindeer (Quarantine)

Mr. N. Macpherson (March 13th) asked the Minister of Agriculture what period of quarantine is to be undergone by the reindeer he proposes to introduce into Scotland on their arrival in the United Kingdom.

Mr. G. Brown: The quarantine requirements and other animal health safeguards cannot be prescribed until details of the proposed importation are submitted to my right hon. Friend by the sponsors of the project, but, amongst other things, strict quarantine for not less than 28 days will certainly be required.

. . . . . .

### Vaccine Lymph (Sheep Carcases)

Mr. Reeves (March 14th) asked the Minister of Health what is done with the carcases of the sheep after they have been used for the manufacture of vaccine lymph.

Mr. Marquand: The producers of the lymph are responsible for getting rid of the carcases, which are unsuitable for disposal to the meat trade.

. . . . . .

### Imported Meat (Slaughter)

Mr. Peter Freeman (March 14th) asked the Minister of Food whether, in view of the fact that the policy of humane slaughter of animals for food has been accepted in this country, he will seek, in the new agreements which are now being considered with the Argentine and elsewhere, to make it a condition that all meat imported as food into this country shall have been killed by this process.

Mr. Webb: I have every sympathy with the motive behind my hon. Friend's suggestion; but I am afraid that I should not be justified in attempting to interfere in the internal affairs of sovereign States in this way.

## NOTES AND NEWS

### Diary of Events

Mar. 28th.—Meeting of the Southern Counties Division, N.V.M.A., at Salisbury (49, Endless Street), 2.30 p.m.

Mar. 28th.—Meeting of the West of Scotland Division, N.V.M.A., in the Glasgow Veterinary School, 2.30 p.m.

Mar. 30th.—Meeting of the North of Ireland Division, N.V.M.A., at Belfast (Union Hotel, Donegall Square South), 2.30 p.m.

Apr. 5th.—Meeting of the Lincolnshire and District Division, N.V.M.A., at Grantham (George Hotel), 2.15 p.m.

Apr. 5th.—Meeting of the Central Veterinary Society, at the Royal Veterinary College, N.W.1, 6 p.m.

Apr. 6th.—Meetings of the Association of Veterinary Teachers and Research Workers, at the Royal Veterinary College, Camden Town, N.W.1. (Ordinary General Meeting 10 a.m.; Annual General Meeting, Southern Region, 12.30 p.m.).

Apr. 7th.—Annual Dinner of the B.R.X. Club, at the Royal Veterinary College, Camden Town, N.W.1.

Apr. 9th and 10th.—Annual Congress of the Laboratory Animals Bureau, in the University of Liverpool.

Apr. 19th and 20th.—Meeting of the Association of Veterinary Teachers and Research Workers (Northern Region) at Newcastle-on-Tyne. (See Notice.)

**Sept. 23rd-29th.—Sixty-ninth Annual General Meeting and Congress of the National Veterinary Medical Association, at Eastbourne.**

### R.C.V.S. Examinations

Wednesday, May 2nd.—Animal Management Examination commences at London.

Thursday, May 10th.—Entries for D.V.S.M. Examination due.

Tuesday, May 15th.—Pharmacology, etc., Examination (Revised Syllabus). Written Examination.

Thursday, May 17th.—Pharmacology, etc., Examination (Revised Syllabus). Orals and Practicals (London and Dublin).

Thursday, June 7th.—D.V.S.M. Written Examinations commence at Edinburgh.

Monday, June 11th.—D.V.S.M. Oral Examinations commence.

Thursday, June 21st.—M.R.C.V.S. Written Examinations.

Friday, June 22nd.—M.R.C.V.S. Written Examinations.

### QUARTERLY MEETINGS OF COUNCIL AND STANDING COMMITTEES N.V.M.A. DURING 1951

**The following dates are given for remaining meetings this year, chiefly to give members plenty of time to reserve hotel accommodation.**

IN LONDON

*Monday, April 16th*:
2 p.m. Organising Committee
4 p.m. Parliamentary and Public Relations Committee.

*Tuesday, April 17th*:
10 a.m. Veterinary State Medicine Committee.
12 noon Home Appointments Committee.
2.15 p.m. General Purposes and Finance Committee.

*Wednesday, April 18th*:
11 a.m. Council

IN EDINBURGH

*Wednesday, July 11th*:
11 a.m. Home Appointments Committee.
2 p.m. Organising Committee.
4 p.m. Parliamentary and Public Relations Committee.

*Thursday, July 12th*:
11 a.m. Veterinary State Medicine Committee.
2 p.m. General Purposes and Finance Committee.

*Friday, July 13th*:
11 a.m. Council.

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## Heavy Fines for Unqualified Practice

### Another Successful R.C.V.S. Prosecution

On Wednesday, March 14th, Frank Palmer appeared before the Magistrates Court at Brentford, Middlesex, on two charges of practising veterinary surgery although unqualified. Each charge related to treatment to a dog. The R.C.V.S. was represented by Mr. Fortune, Barrister-at-Law, instructed by Messrs. George Thatcher & Sons, Solicitors, and the defendant appeared in person and pleaded "Not Guilty."

The Magistrates found the cases proved and Palmer was convicted on both summonses and fined £20 on each, a total of £40, with ten guineas costs. As an alternative to the fines, the Magistrates imposed two months imprisonment and it is understood that Palmer having failed to pay the fines, is now serving this term.

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### Members Proceeding to Australia—N.V.M.A. Letters of Introduction

It has been suggested by the Council of the Australian Veterinary Association that any member of the N.V.M.A. who may emigrate to Australia should be furnished by the Association with a letter of introduction to the appropriate Divisional Secretary of the Australian Veterinary Association, or with a general letter introducing him to the members of the profession in that country.

Any member of the N.V.M.A. taking up a post in Australia and who wishes to take advantage of this suggestion, should communicate with the General Secretary, N.V.M.A., 36, Gordon Square, W.C.1.

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## PERSONAL

*Appointments.*—The following first appointments in the Colonial Veterinary Service are announced: of Mr. A. C. Field, B.V.SC.[1] (LIV.), as Biochemist, Veterinary Department, Nigeria, and of Mr. I. S. McLaren, M.R.C.V.S., as Veterinary Officer, Northern Rhodesia.

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## R.C.V.S. OBITUARY

McDOWELL, Albert Oscar, Lewisham House, Brunswick Road, Gloucester. Qualified Glasgow, May 25th, 1901. Died February 19th, 1951: aged 76 years.

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## IMPROVED FOWL PEST POSITION

### NEED FOR CONTINUED VIGILANCE

Over the country as a whole the number of confirmed outbreaks of fowl pest has been falling week by week, and the announcement made in our last issue that it has been found possible to remove the ban on movements of birds between East Anglia and the rest of the country indicates that the fowl pest position is much better than seemed likely at the beginning of the year and is one which calls for the payment of tribute both to the Veterinary Officers of the Ministry for their firm handling of a menacing situation and to the poultry-keepers for their co-operation.

With young stock on the holdings, however, a new danger period is approaching and, as is pointed out in official quarters, it is still too early to come to definite conclusions on the success of the methods being adopted to eradicate the disease. Vigilance is still needed both from members of the profession and from poultry-keepers, and those who handle dead poultry in any form should continue to take precautions.

Other movement restrictions than those mentioned above as having been discontinued, may have to remain in force for some time.

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## DISEASE FACTOR IN WORLD DECLINE OF SHEEP

The effect of diseases in the general decrease in world production of sheep—at a time when there was a world-wide demand for wool—was discussed in Edinburgh on March 13th by one of America's leading veterinary authorities, Dr. I. E. Newsom, of the Colorado Agricultural Experimental Station.

Dr. Newsom, who has specialised in sheep diseases, addressed a meeting of students and veterinary scientists in the Royal (Dick) Veterinary College. The lecture was one of several he will make during a tour in this country arranged by the Organisation for European Economic Co-operation, under whose aegis several well-known American veterinarians are now in Europe.

In its report of the proceedings *The Scotsman* states that Dr. Newsom, remarking that a few years ago his own county in Colorado fed as many as 1,000,000 feeding lambs, while to-day he doubted if they fed over 200,000, said this had been happening all over the world. In only two or three countries had sheep production increased in the last ten years. There had been slight increases in Turkey and in Italy, but in nearly all other countries there had been a great decrease in sheep production. It had gone down about 25 per cent. in America in the last ten years.

"Now the demand is for wool," said Dr. Newsom. "In spite of the production of artificial fibres, we have not found anything to take the place of wool. Now that we have to put millions of men into uniform, we need more wool than is available, so that the demand for sheep has increased materially—but we are faced with a great shortage of sheep."

There were many causes of this shortage of wool. One was the marketing of so many sheep as lambs, but there were many others, and among them at least one explanation was the difficulty of raising sheep on account of the diseases which developed as they grew up, and particularly those which occurred through the breaking up of the large ranges in many countries and the necessity to raise lambs on small farms.

Dr. Newsom then dealt with some of the prominent diseases which had been met in America, and summed up with the remark to the effect that proper management and good shipping conditions were often more effective than medicinal treatment or even vaccination.

In the course of a discussion, reference was made by Mr. W. W. Peggie, veterinary surgeon, Biggar, to the fact that "the British Government were not quite so kind to sheep farmers as the American Government were to American sheep farmers." Mr. Peggie, who has an extensive Blackface hill farm, said that at the present time he was trying to carry the sheep on the ranges into the wedder age. When they were further forward they were more disease-resistant, but the same number of sheep could not be carried, and there would be more lambs suffering from exposure. If in America they carried sheep longer on the range it would be beneficial to the country, as they would eat down a lot of the foliage the lambs would not eat.

Professor J. Russell Greig, director of the Moredun Institute of the Animal Diseases Research Association, presided.

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## ADDRESSES OF DISEASE-INFECTED PREMISES

The list given below indicate, first, the county in which are situated the premises on which disease has been confirmed, followed by the postal address and date of outbreak.

FOOT-AND-MOUTH DISEASE:

*Rutland.*—Coppice Farm, Glaston, Uppingham, Rutland (Mar. 15th).

SWINE FEVER:

*Gloucester.*—Morton Grounds Farm, Aston Subedge, Campden (Mar. 15th).

*Derbys.*—Scarsdale Hospital, New Bold Road, Chesterfield (Mar. 13th).

*Lancs.*—Pig Club, Farnworth House Farm, Duxbury, Chorley (Mar. 14th).

*Sussex (E.).*—London Barn Farm, Hurst Green (Mar. 12th).

*Yorks (E.R.).*—Golf Link Allotments, Ingle Mure Lane, Hull (Mar. 13th).

*Yorks (W.R.).*—41, Well Lane, Treeton, Rotherham, Yorks (Mar. 16th).

# CORRESPONDENCE

*The views expressed in letters addressed to the Editor represent the personal opinions of the writer only and their publication does not imply endorsement by the N.V.M.A.*

## FOWL PARALYSIS

Sir,—It was interesting, and indeed encouraging, to learn from Miss James's letter to the *Record* of the 10th inst. that she had found intraperitoneal injections of iodine valuable in the treatment of fowl paralysis, since I advocated this treatment as long ago as 1939.

It was the result of some years of enquiry into the action of several therapeutic agents on the reticulo-endothelial system of healthy and paralysed domestic poultry, designed purely to obtain at least some check on very heavy losses in the industry until such time as the full picture of this baffling disease had been delineated. I realise that it is an empirical treatment and cannot be anything more in the present state of our knowledge. Until such time as all the facts are known, however, it remains a method by which some birds can be saved for future egg production, and even for breeding not on pure lines, for I have bred chicks from treated and recovered parents which showed no signs of the disease during life or at *post-mortem* examination, and I believe that this has also been the experience of Dr. Tij Bakker. It is a treatment of symptoms never claimed to be 100 per cent. effective in causing their disappearance but which stood up firmly to the field trials described in my previous letter (*Vet. Rec.*, 1950. **35**, 6), best described as ammunition for front line troops until a heavy barrage can be put down, and I am glad to know that in the hands of those for whom it was designed it continues to be of service. I have a suspicion (possibly quite mistaken) that the treatment is of most value for small farmers or "backyarders" who call in a practitioner, and whose birds are threshold cases of malnutrition or suffering from poor hygienic conditions, and least on large units whose epidemics call for the Veterinary Investigation Officer but where rations are carefully balanced and optimum conditions prevail.

Yours faithfully,

14, Richmond Road, Cambridge. ERNEST GRAY.

*March 15th*, 1951.

* * * * *

Sir,—In reply to Miss Joshua's letter, the further details required are as follows: Of the four treated birds which did not recover two were in normal condition, the others showed marked loss of weight.

Of the six clinical recoveries moderate emaciation and inappetence was present in each case.

The birds were out of lay for two to three weeks—one bird persistently laid malformed eggs.

Yours faithfully.

13, Australia Road, Gabalfa, Cardiff. OLWEN D. JAMES.

*March 17th*, 1951.

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## STATE CONTROL OF MASTITIS

Sir,—Mr. Pitcher's letter appearing in the *Record* issued on March 10th prompts me to mention an incident which occurred during a "survey test" in this district.

The chosen dairy farmers were shown how to sample milk from each cow on to agar plates in small jars, which were then to be sent to the laboratory for incubation and examination. If the presence of *Str. agalactiae* were proved the farmer was supplied with sufficient tubes of penicillin to treat the cow or cows so affected.

One particularly astute client squirted milk from one mastitis cow on to *every* agar plate, with the result that he received enough free penicillin to treat 30 cows.

One would justifiably feel that any results based on such a survey would be valueless, as the instance quoted may well be one of several which have not come to light.

Yours faithfully,

Ashworth House, Daventry. J. D. BAXTER.

*March 11th*, 1951.

## REACTORS IN ATTESTED HERDS

Sir,—Whilst fully in agreement with Mr. R. J. A. Swift's remarks regarding reactors from Attested sales, I fail to see the logic of his second paragraph.

As I read it, there is an implied criticism of the local Veterinary Inspectors which is not justified or justifiable.

If any blame can be fastened on to anyone in the working of the scheme, the fault lies with those officials who issue the "pink forms" at Attested sales without any check being made on the identity of cattle. I have myself examined the earmarks of cattle bought in Attested sales, and on a number of occasions the tattoo-marks did not tally with the number given in the catalogue, and carefully copied therefrom on the form which was given to the purchaser.

Yours faithfully,

White Cottage, Colyton, Devon. G. S. ALLEN.

*March 15th*, 1951.

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## NOMENCLATURE OF ANIMAL DISEASES

Sir,—May I crave your indulgence further in order to correct a wrong impression which would appear to have been created by my letter of February 9th (*Vet. Rec.*, February 24th).

It was never my wish to suggest that the old disease nomenclature should be maintained in lieu of the scientifically more accurate modern terms. I wished merely to appeal against the wholesale condemnation of the use of the old terms, and against the suggestion that students in our colleges should no longer be acquainted with them. At the same time I wished to appeal for their preservation, if only as museum pieces.

Whilst recently re-reading Professor Dick's "Occasional Papers on Veterinary Subjects," it occurred to me how greatly the enjoyment of all such works of historical interest to our profession would be curtailed had one no knowledge of the terms used by our old masters. Their writings may be of little scientific use to us to-day, but their powers of observation, their noble strivings and their sense of vocation, make it desirable that they should continue to be read for many years.

Yours faithfully,

Penbury End, Penn, Bucks. B. S. HANSON.

*March 16th*, 1951.

## DISEASES OF ANIMALS ACT, 1950—GREAT BRITAIN

**Summary of Returns of Confirmed Outbreaks of Scheduled (Notifiable) Diseases**

| Period | Anthrax | Foot-and-mouth | Fowl Pest | Parasitic Mange* | Sheep Scab | Swine Fever |
|---|---|---|---|---|---|---|
| Feb. 16th to 28th, 1951 | 24 | — | 46 | — | — | 27 |
| Corresponding period in— | | | | | | |
| 1950 | 22 | 2 | 1 | — | 2 | — |
| 1949 | 4 | 4 | 15 | — | 3 | 1 |
| 1948 | 5 | — | 27 | — | 1 | 1 |
| Jan. 1st to Feb. 28th, 1951 | 105 | 15 | 414 | — | 4 | 151 |
| Corresponding period in— | | | | | | |
| 1950 | 78 | 6 | 28 | — | 15 | — |
| 1949 | 28 | 5 | 87 | — | 13 | 4 |
| 1948 | 21 | — | 95 | 1 | 16 | 5 |

* Excluding outbreaks in Army Horses.

### Tuberculosis (Attested Herds) Schemes

The number of Attested Herds, *i.e.*, herds officially certified as free from Tuberculosis as at February 28, 1951, was as follows:—

| England | Wales | Scotland | Total (Great Britain) |
|---|---|---|---|
| 26,919 | 15,969 | 13,964 | 56,852 |

# N.V.M.A. CONGRESS, 1951

**September 23rd - 29th (inclusive)**

## List of Hotels in Eastbourne

The following is a list of recommended hotels in Eastbourne, giving particulars of their charges, etc. Members are advised to make reservations *as soon as possible* direct to the hotel of choice. Should a fuller list or any other information about Eastbourne be required, this can be obtained on application to the Publicity Department, Information Bureau, Eastbourne (Tel. : 4848).

The headquarters hotel for the period of the Congress and at which most of the evening functions will be held, is the Grand Hotel, Grand Parade, and block reservations of double and single rooms have been made there by the Association. These reservations will be held until the end of July *only*.*

**Recommended Hotels in Eastbourne in the vicinity of the Conference Hall (the Winter Gardens) and the Headquarters Hotel**

| *Name and Address* | *Inclusive* | † *Bed and breakfast* |
|---|---|---|
| **Licensed** | | |
| Grand Hotel, Grand Parade ... ... | 36/- to 55/- per day | 29/- to 47/6 |
| Cavendish, Grand P'de | 35/- to 60/- per day | 30/- to 35/- |
| Imperial, Devonshire Place ... ... | 7 to 11 gns. | — |
| Hydro, Mount Road ... | 8 to 12 gns. | — |
| Kenilworth Court, Wilmington Square ... | From 7 gns. | 17/6 |
| Sea View, Grand Parade | 8 to 10 gns. | — |
| Beaulieu, Grand Parade | 8½ to 10 gns. | — |
| Sandhurst, Grand P'de | From 25/- per day | — |
| Southdown, Howard Square ... ... | 7 to 11 gns. | — |
| Neptune Court, Jevington Gardens ... | 5 to 8½ gns. | 15/6 |
| Clarendon, Gildredge Road ... ... | 7 to 8½ gns. | — |
| Sussex, Cornfield Terrace ... ... | 9 gns. | 17/6 |
| Clifton, South Street ... | 7 to 10 gns. | — |
| **Hotels and Private Hotels** | | |
| Lansdowne, Grand Parade ... ... | 7½ to 11 gns. | 19/6 |
| Haddon Hall, Devonshire Place ... ... | 7 to 10 gns. | — |
| West Rocks, Grand Parade ... ... | 6 to 10 gns. | — |
| Wish Tower, Grand Parade ... ... | 7 to 10½ gns. | 21/- |
| Queensborough, Grand Parade ... ... | 7 to 10 gns. | 15/6 |
| Oban, Grand Parade ... | 7 to 10 gns. | — |
| New Wilmington, Compton Street ... | 7 to 9 gns. | 18/6 |
| Quendon, Carlisle Road | 6 to 7½ gns. | — |
| Lynwood, Jevington Gardens ... ... | 4½ to 7½ gns. | — |
| Lamont, Wilmington Square ... ... | 7½ to 9 gns. | — |
| Caithness, Wilmington Square ... ... | 7 to 9 gns. | — |
| South Cliff, South Cliff ... ... ... | 6 to 8½ gns. | 13/6 |
| Shirley Court, Hardwick Road ... ... | 6 to 8 gns. | — |
| Lathom House, Howard Square ... ... | 6 to 8½ gns. | 15/6 |
| Stanley House, Howard Square ... ... | 7 to 10 gns. | 15/6 |
| Whitehall, Howard Square ... ... | 6 to 9 gns. | — |
| Ben Reay, Carlisle Road | 6 to 8 gns. | — |
| Marden, Carlisle Road | 6 to 7½ gns. | — |
| Medwyn Court, Carlisle Road ... ... | 5½ to 6½ gns. | — |
| Southborough, Carlisle Road ... ... | 5½ to 7 gns. | — |
| Alwyn, Jevington G'dns | 6 to 7 gns. | — |
| Brooklyn, Jevington Gardens ... ... | 7 to 8 gns. | — |
| Candar, Jevington G'dns | 5 to 6½ gns. | — |
| The Chimes, Jevington Gardens ... ... | 5½ to 6½ gns. | — |
| Elmscroft, Jevington Gardens ... ... | 5 to 5½ gns. | — |
| Fairlands, Jevington Gardens ... ... | 5 to 6½ gns. | — |
| Hazelhome, Jevington Gardens ... ... | From 5½ gns. | — |
| Jevington Guest House, Jevington Gardens ... | 5 to 6 gns. | — |
| Kuvee, Jevington Gdns. | From 4½ gns. | — |
| Little Seeleys, Jevington Gardens ... | 5 to 7 gns. | — |
| Morningside, Jevington Gardens ... ... | From 5½ gns. | — |
| Rosforde, Jevington Gardens ... ... | 5 to 5½ gns. | — |
| Springhaven, Jevington Gardens ... ... | 5 to 6½ gns. | — |
| Sussex Guest House, Jevington Gardens ... | 4½ to 6 gns. | — |
| Tor View, Jevington Gardens ... ... | 5½ to 6½ gns. | — |
| East Mullion, Lascelles Terrace ... ... | 7 to 9 gns. | — |
| Mowbray, Lascelles Terrace ... ... | 5 to 7 gns. | — |
| Revelstoke, Lascelles Terrace ... ... | 6½ to 7½ gns. | — |
| South Lynn, Lascelles Terrace ... ... | 5½ to 6½ gns. | — |
| Edenhurst, Wilmington Gardens ... ... | 5½ to 7 gns. | 12/6 |
| Farrars, Wilmington Gardens ... ... | 5 to 6½ gns. | — |
| Kingscourt, Wilmington Gardens ... | 5 to 7 gns. | 12/6 |
| Park View, Wilmington Gardens ... ... | 5 to 6½ gns. | — |
| Travancore, Wilmington Gardens ... | 5 to 6½ gns. | — |
| Devonshire Court, Wilmington Square ... | 5 to 7 gns. | — |
| Ellesmere, Wilmington Square ... ... | 5 to 7 gns. | — |
| Faircroft, Wilmington Square ... ... | 6 to 8 gns. | — |
| Southview, Wilmington Square ... ... | 6 gns. | — |
| **Country Accommodation** | | |
| Birling Gap Hotel, Birling Gap, East Dean | 8 gns. | |
| Woodside, Hailsham ... ... ... | From 6 gns. | |
| Glyndley Manor, Hankham, Hailsham ... | From 8 gns. | |
| Chalk Farm, Willingdon, Hampden Park | From 6 gns. | |
| Martlets, Pevensey Park Road, Pevensey | 5 to 5½ gns. | |

* In booking at the Grand Hotel, if attendance at the N.V.M.A. Congress is mentioned, special terms will be allowed.

† The hotels indicated offer bed-and-breakfast accommodation at the terms quoted, but only for odd nights and not for full week bookings.